

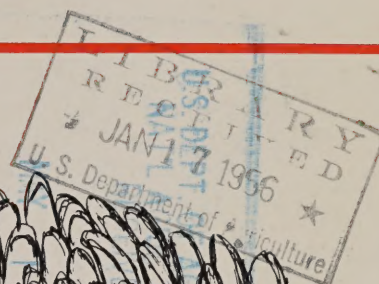
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1956

BALL Mum Guide



Geo. J. Ball
INC.

WEST CHICAGO, ILLINOIS
phone West Chicago 299

TO OUR CUSTOMERS:

Exciting things are happening in the Mum world!

Year round Mums were again in '55 grown and sold in substantially larger quantities than ever before. The lighted and shaded crop is now definitely larger than the normal season one. In spite of this substantial increase in production, prices at the wholesale level by and large held firm.

All of this can only mean that the public has definitely accepted Mums out of season.

The thousands of growers across the U.S. and Canada who have undertaken this new production have done so—and stayed with it—because these Mums have paid.

Meanwhile, normal or fall Mums continue to hold their place as the top fall crop for the retail grower.

There is reason to continue to be optimistic about the future of Mums—especially if the increase continues gradually, giving markets time to develop demand. It's the plunger who stands to hurt himself and others, too.

Mums "fit" many different types of ranges. The retail grower flowers a house of normal season "fall" Mums—spread from late October thru Christmas by careful selection of varieties. He offers garden Mums along with bedding stock in the spring. Some of the larger retail growers shade Poms for early fall, others are in full year round cut.

The wholesale cut flower man is typically the year round producer—Poms and Standards. You'll find programs of this type on ranges of all sizes from 20,000 sq. ft. up to a million or more. It works on both kinds of places. Likewise, the wholesale pot plant ranges produce pot Mums round the year.

Our part in this rapidly developing Mum industry is to supply the grower with the very best in cuttings, and in service. Full cultural details on all phases of the crop are available in this BALL MUM GUIDE, our monthly GROWER TALKS, our MUM PLANNING SERVICE BULLETINS (for year round growers). We here on the Ball Mum staff stand ready to help at any time. Too, you will find your Ball Representative "Mum wise" and ready to serve you.

Best wishes for profitable Mums in '56!

GEO. J. BALL, INC.
Mum Department



The Ball Brothers, from the left: George K. (Bulbs-Plants), Bob (Plant, Bulb, Container Warehousing), Vic (Mums), Carl (Seeds, Containers). The Mum; old standby, Indianapolis White.

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ABOUT OUR BALL MUM PLANNING SERVICE

Modern Mum growing—especially year round production—is a precision operation. Cuttings are planted, lighted, shaded, and flowered according to a carefully worked out plan. Such “programs” as they have come to be called, must be designed to give continuous cut, yet emphasize holidays. Total yearly production must be in tune with demand. Obviously, selection of the best varieties at different flowering periods is of critical importance.

Several years ago, we organized here at West Chicago, our Ball Mum Planning Service—for the specific purpose of relieving growers of the burden of much of this important planning. Our “MPS” staff men are trained and experienced specialists in the job of planning year round Mums. Thru our continuous flowering trial program here on our range, we keep constantly abreast of the question of varieties—which are best for each flowering period, which of the new ones “fit”—and where. New cultural slants in Mums are carefully considered, suggestions for applying them to Ball Programs are made where indicated.

The “MPS” idea has taken hold. The team of an experienced grower knowing local growing problems, soils, labor, marketing etc.—coupled with a Ball “MPS” specialist on the technical side of year round Mum flowering has proven to be an effective one. Ball programs may be found today in all important growing areas.

Let's take it by steps

1 Let's assume that you, a grower are interested in at least “taking a look.” How would a Mum program fit? What would be needed in equipment, what kind of average weekly production would a given area provide? What's the approximate cost and return picture?

You would just write or call Mum Planning Service, Geo. J. Ball, Inc., West Chicago, Illinois—or your local Ball representative.



2 Shortly, a first interview is arranged. The points mentioned above are thoroughly discussed.

Let's assume that you, the grower, are interested enough to want a closer look at how a program would fit into your situation. The Ball man will carefully note all details needed to prepare a “first draft” of the program. Is it a retail or wholesale range? What special demands for colors, flower types? Any special problems in temperatures, head



room available? Local, weather—very hot summers, etc.? Bed dimensions, “ready to plant” dates.

All this is carefully noted, goes back to the home office of our Mum Planning Service.

3 From this, the actual program is prepared by our Ball Mum Planning Service Staff. Included are all dates for planting, lighting, shading of crops, spacing, varieties recommended, etc. An “index” sheet is furnished summarizing the year's program, from which the over-all rotation may be seen more easily—and which shows at a glance dates when you will cut into a new crop.



4 This first draft then goes back to you, the grower. Drawing on your experience with local growing and marketing conditions, there may be a few changes you will want to make. The whole program is again discussed. Let's assume that it is a deal, you decide to go ahead with the program for one year. You simply indicate your acceptance of the program, and on the scheduled dates cuttings will start arriving. A final copy of the program is furnished. There is no charge for this Planning Service to Ball customers.

5 Of equal importance after your year round program is rolling—“MPS” and the Ball organization maintain a close follow-up. Routine “contact calls” are made, you may receive our several grower Service publications (details below) with helpful suggestions on cultural aspects of year round flowering. We realize that year round flowering of Mums, like any growing operation, is not completely trouble free. There are problems. We are glad to help if called upon to do so. In many cases, our own experience as wholesale year round Mum growers gives us a practical background for this aspect of our Grower Service.



6 Publications

Mum Planning Service Bulletin. Informal, a couple of pages every month or two on various phases of year round Mum growing. The tricky problems of temperatures at different season are often discussed, a good bit on cooling greenhouses, diseases, feeding, other problems. Sent free on request to those interested.

Grower Talks. Monthly magazine for the miscellaneous grower. Features short articles on many new angles of growing. Covers bedding plants, Snaps, Asters, Carnations, etc. as well as Mums. Includes a monthly “sow this month” reminder, also notes on growers and growing from trips by the Ball Staff. 25 pages, illustrated. Cost 90¢ a year, 3 years, \$2.50.



Interested? Give us a call!

Mum Planning Service West Chicago 299

1956 Novelty Section

All the 1956 novelties plus recent varieties that have proven to be specially valuable.

For prices of more than 50 cuttings of a variety, see box page 7.

STANDARDS

WHITE

MARBLEHEAD

October 25

(Yoder) Small incurve. An attractive pure white incurved standard. It shows special promise on the short (and regular) disbud program from May thru October, altho it can be flowered thru the Northern winter (as a disbud). No pinking at low temperatures. It is especially valuable as a disbud during hot summer—holds its size well. Also recommended as a big mum for normal season and early fall shaded crops. Has cool temperature tolerance of Silver Sheen. 50 cuttings, \$4.00.

LUNA

October 25

(Yoder) Small incurve. A good pot plant variety. Has good sized flower, quite compact spreading habit, prompt bud set even under cool temperatures, and uniform flower development. Short procedure schedule is recommended. Color is a pleasing cream. Good round the year. 50 cuttings, \$4.00.

SUSAN LEIGHTON

November 6

Large spider. Ivory white. Standard and pot plant program. Tall procedure for pots October thru November. Intolerant of low light intensities. Finish cool. Supplements Queen's Lace with a much showier flower. 50 cuttings, \$3.75.

YELLOW

HONEYSWEET

October 15

(DePetris) Semi-incurved disbud. Medium yellow. Tall procedure for May pots. Showy garden variety as a disbud. Durable at high temperatures. 50 cuttings, \$4.00.

VALIANT

October 15

(DePetris) Small semi-incurve. Moonlight yellow. Large garden variety. 50 cuttings, \$4.00.

SUNBURST

October 20

(DePetris) Medium large reflexed decorative. A promising new yellow pot mum. We don't look for it to replace Bonnaffon, but at certain seasons it has telling advantages. In the hot weather of summer and early fall, it holds flower size better, tends to flower more evenly (at all seasons). It is recommended for pot growing (tall procedure) from early May thru October. It has a fine deep golden shade (deeper than Bonnaffon), is a free breaker, makes vigorous growth with lots of flowers. It is naturally some taller, but if properly scheduled, height is no problem. Modified second pinch procedure helps keep it short. Not recommended for Northern winters. Flower type is more loose, informal than Bonnaffon, especially as it ages. May be grown as an early 9 week kind. Also looks good as a short disbud from May thru December. 50 cuttings, \$4.00.

GEORGIA

October 24

Intermediate incurve. Flowered at seasons for which it is recommended, Georgia will make a very showy yellow pot mum. It is large flowered, naturally a compact grower, has a pleasing medium deep yellow color. It is recommended from early April thru November, to be grown on short procedure. Not happy under low light conditions of Northern winters. It sets bud rapidly and uniformly. A definite improvement on Blazing Gold. 50 cuttings, \$4.00.



GARDENIA

A first class new white pot mum for spring-summer-fall. It's short!

YELLOW GLORY

December 1

Intermediate incurve. Lemon yellow. Color mutation from December Glory. Standard and short programs mid-November thru January. 50 cuttings, \$3.75.

PINK

CALVERT'S PINK

November 17

Intermediate incurve. A very pleasing orchid pink suffused with salmon. Suggested for standard and short crops November thru January. Medium treatment for pots in same period. Must be kept at 55° or lower after buds show—to prevent stalling. Rich color unsurpassed for Thanksgiving season. 50 cuttings, \$4.00.

BRONZE AND RED

IND. APRICOT

November 5

(Hillside) Intermediate incurve. Warm apricot bronze, especially when flowered during cool weather. A more versatile color than its parent Ind. Bronze. Size slightly smaller, habit stronger. Standard and short crops mid-September thru mid-May. Tall procedure for pots same period. 50 cuttings, \$3.75.

DELAWARE

November 8

(Yoder—1955) See page 6. A large semi-incurved reddish bronze standard. An outstanding pot plant for fall, winter and spring. 50 cuttings, \$3.25.

CALVERT'S GOLD

November 20

Intermediate semi-incurve. A warm pleasing orange-bronze. Form and non-fading color improve Apricot Queen. Standard and short crops mid-October thru April. Medium procedure for pot plants in same period. At its best October thru January—finished cool. 50 cuttings, \$4.00.

POMPONS

WHITE

GARDENIA

October 8

(DePetris) See page 2. Intermediate decorative. A very promising large flowered creamy white for the greenhouse pot plant trade. Gardenia is a compact grower yet vigorous enough to break well and make a head of flowers. It is at its best from mid-April thru October, good in hot weather. It will pink at low temperatures so is not recommended for winters up North. Requires medium treatment. 50 cuttings, \$4.00.

PILGRIM

October 15

(Yoder) Intermediate pompon. Clear white. Temperature tolerance of Chris. Columbus, improving that variety in all respects. Short procedure for April thru June and September thru mid-October pot plant program. Durable, compact garden variety. 50 cuttings, \$4.00.

BLIZZARD

October 15

(Yoder) Small formal pompon, clear white. A versatile and very promising new white pomp in the 8 week class. Actually has the vigor and quality of a 9 or 10 week variety. It's pure white, good spray formation, and a good producer. It is recommended for northern greenhouse flowering from May thru October—especially good in hot weather. Fine in the early cloth house—July thru September. Will set bud at below 55°. 50 cuttings, \$4.00.

MONTY

October 25

(University of Montana) Large clear white decorative. Monty has much to recommend it as a white for the greenhouse pot plant trade. It is compact and spreading in growth, flowers are large and pure white. It flowers well from March thru December in the North (year round down South). It will stand up reasonably well under hot summers. It will not show brown centers. Monty does have a somewhat quilled petal effect which may or may not be a fault. It is not recommended for double pinch. Use medium procedure schedules. 50 cuttings, \$4.00.



WHITETOP

Top-notch pure white pomp. Whitetop's rise to full acceptance has been more rapid and complete than that of any variety on record.



ALASKA

Very promising brand-new white anemone. We voted it one of the top two or three novelties for '56. What do you think? Description below.

WHITE KEEPSAKE

October 25

(Ralph Luce & Son) Intermediate ivory pompon. Selection from Keepsake. Like White Popcorn, it is devoid of pink tinges at low temperatures. Spray programs April thru October. Cloth house July thru mid-October. At high temperature finish, more ivory than Keepsake. 50 cuttings, \$4.00.

ALASKA

November 1

(Yoder) Intermediate white anemone with white cushion. Somewhat resembles Shasta but perhaps more daisy like—less cushion center. (See photo). It is a dazzling pure white, quite large flowered and showy. It is a real good producer, sets bud well at marginal temperatures. A rather tall grower, it can be used in 10 week schedules. It does well in the greenhouse from mid-April thru October, under cloth from July till mid-October. It stands summer heat under glass with less delay, less loss of cushion, and less petal curling than Shasta. Disspraying helps. 50 cuttings, \$4.00.

VENONA

November 1

(DePetris) Large white Daisy suitable for sprays or disbuds, has a prominent large disc. Blooms are produced on vigorous growth and strong stems, responds in 9 weeks. 50 cuttings, \$3.50.

WHITETOP

November 5

(Yoder—1954) Fine glistening white medium large decorative pompon. See color photo. Whitetop has had by far the fastest rise to full commercial acceptance of any new mum introduced in recent years. It is one of the two top white poms on our list. Whitetop is exceptionally versatile. It flowers well in the greenhouse from mid-April till very hot weather. It's excellent again from mid-September thru its normal season. It is very widely used under cloth both up North (fall), and in Florida (winter). It does tend to become uneven under glass in very hot weather. Sets buds well at marginally low temperatures. Ships well. Not at its best if given less than recommended period from plant to flower. 50 cuttings, \$3.00.

1956 Novelty Section



YELLOW BEAUREGARD

Any real golden yellow sport of well-known Beauregard is sure to make a place for itself. Here it is!

ICEBERG

November 5

(Yoder) Large pompon. Outstanding—probably number one—as a white disbud year round. It's tall and vigorous, pure white, makes a fine large round pure white flower. Sets bud at marginal temperatures, yet stands summer heat well. Nice in cloth house but needs cover—rain and dirt collect in the incurved petals. Also very showy as a spray pompon mid-April to mid-November. An extra week of long days improves the spray. 50 cuttings, \$4.00.

LOLITA

November 8

(DePetris) Pure white daisy suitable for sprays. Unusually good form and substance. Good growth habit and production. Medium height. A very good white daisy. 50 cuttings, \$3.50.

ILLINI GLACIER

December 1

(University of Illinois) Large anemone. Clear white with white cushion. Durable. Productive. Uniform response. Spray and short disbud crops. October thru December and March thru April. Improves L. I. Beauty in color, form and keeping quality. 50 cuttings, \$4.00.

DOLOMITE

December 13

(DePetris) Intermediate pompon. Clear white. Smaller, later version of Carrara. Taller, more vigorous. Spray programs mid-November thru December. Adds quality and color clarity to the December season. 50 cuttings, \$4.00.

WHITE RIVIERA

December 15

Intermediate decorative. Ivory. Equal in size, form, and vigor to parent variety Riviera. Spray programs December thru February. Does not show pink tinges with low temperature finish. 50 cuttings, \$3.75.

ILLINI CASCADE

January 5

(University of Illinois) Large decorative clear white. Improves the color, size, vigor, and response of Illini Snowbound. Tall, responsive. Finishes well at high (60°) or low (50°) temperature. Spray programs late December thru February. A valuable addition to the northern winter program. 50 cuttings, \$4.00.

YELLOW

YELLOW BEAUREGARD

November 5

(Yoder) Intermediate pompon. Clear golden yellow at all temperatures—cool or hot. Has same ability to set buds at low temperature—and heat tolerance—of its parent, Beauregard. Fine from mid-April to mid-November under glass, and in September-early October cloth house. At its best in mid-summer greenhouse crop. Some tendency to clubby sprays at low temperatures. Removal of center bud helps this. 50 cuttings, \$4.00.

LUXURY

November 8

(Yoder) Large decorative. A large attractive golden amber disbud; flower clear yellow at high temperature. At its best as a disbud in summer but good for June thru October. Responsive. Nice also as a spray pompon May thru October. Disspray procedure helps it. Good in cloth house August to mid-September. 50 cuttings, \$4.00.

JEALOUSY

November 10

(Yoder) Small pompon. A hard round button type pompon, flower size about like Lollipop. Color is an intense yellow with attractive green eye. Jealousy is a dependable bud setter, good producer, and should find a place along with Gold Coast in both greenhouse (early April thru November) and cloth house (August to mid-October). In the mid-summer greenhouse it sets up well but the green eye becomes quite pronounced. 50 cuttings, \$4.00.

YELLOW IGLOO

November 10

Small pompon. A fairly deep lemon yellow sport of Illini Igloo. Has same dependable bud setting habits and general reliability. Fine in the greenhouse (early April to mid-November), and under cloth (mid-July to mid-October). Will give Gold Coast competition especially in summer-early fall under glass. Goes well into May in Florida without black cloth. 50 cuttings, \$4.00.



JEALOUSY

A sort of "Yellow Dot" type—but Jealousy will produce!
Full notes above.

ILLINI PETITE

(University of Illinois) Small, hard button pompon. Orange-yellow. 50 cuttings, \$5.00.

GOLD BALL

(Yoder) Intermediate pompon. Golden yellow. Temperature tolerance improves Golden Chord and Forty-Niner. Hard, durable. Size of Corsair. Outstanding in cloth house mid-August thru mid-October. Spray programs March thru May and September thru mid-November. Valuable supplement to Forty-Niner. 50 cuttings, \$4.00.

ILLINI GOLDBLOCKS

(University of Illinois) Intermediate decorative. Golden yellow. Tall, vigorous. Requires high light intensity for maximum production. Unsurpassed as a decorative in September, October cloth house. Spray program in October. Short disbud programs for October thru December. Requires 60° F. or less to develop its flower buds. 50 cuttings, \$4.00.

CHEERIO

(Winkler) Intermediate anemone. Intense golden yellow. Productive. Form has class and quality. Blind tendencies in winter. Spray programs October thru November. Pot programs use tall procedure for same period. Compact. Spreads well. 50 cuttings, \$4.00.

SULTAN

(Yoder) Large formal decorative. Golden yellow to amber at low temperatures. Large Orange Beauregard. Vigorous. Productive. Temperature tolerance of Forty-Niner. Consistent performance at high temperatures. Disbudded spray and short disbud programs March thru November. Cloth house August thru mid-October. 50 cuttings, \$4.00.

GOLDEN ACCLAIM

(Yoder) Intermediate pompon. Golden yellow. Selection from Acclaim. Intensification of Yellow Acclaim. Spray programs mid-November thru mid-March. 50 cuttings, \$4.00.

GOLDEN SNOWBOUND

Intermediate decorative. Golden yellow. Color intensification of Ill. Yellow Snowbound. Natural flowering. Low temperature finish. 50 cuttings, \$4.00.

November 10

November 15

November 15

November 15

November 22

December 5

January 5



YELLOW IGLOO

Same reliable behavior as its parent, Igloo. This new sport is assured of a place among 10 week yellow poms.

PINK

NORTHERN QUEEN

October 12

(DePetris) Intermediate decorative. Pink. Larger flower, more vigor than Petrisian Rose. A superb garden variety of semi-dwarf habit. Very hardy. 50 cuttings, \$4.00.

CUPID

October 15

(Yoder) Small decorative. Pink. Unique dahlia form. Prolific. Dwarf, masses and spreads as a garden variety. Disbudded with short treatment for May thru early June and late September thru October pot plants. 50 cuttings, \$4.00.

ETHRELDA

October 15

Intermediate anemone. Orchid pink. Dwarf. Breaks freely. Responds well. High temperature color retention. Dependable pot plant with short treatment the year around. 50 cuttings, \$3.75.

REVEILLE

October 25

(Yoder) Small pompon. Nice bright pink. Extreme low temperature tolerance. Popcorn production. Requires low temperature finish. Shapely, with medium treatment for pots during April thru mid-June and late September thru October. Spray programs same period. Cloth house September thru mid-October. 50 cuttings, \$4.00.

ELVIRA

October 25

(DePetris) A semi-dwarf pink daisy suitable for growing in sprays. A good color with low growth for growing on those side benches. 50 cuttings, \$4.00.

BLUECHIP

November 1

(Yoder—1954) Intermediate pink decorative. Recommended May and June in the greenhouse, and August thru October in the cloth house. 50 cuttings, \$3.00.

DELIGHT

November 5

(Yoder) Intermediate daisy. Pink. Tolerant to high temperature flowering. Productive. Durable. Striking color. Fresh appearance. Spray crops April thru mid-November. Cloth house mid-August thru mid-October. 50 cuttings, \$4.00.

ONECTA

November 5

(DePetris) Pale pink quilled large flower. Quills are straight and possess unusual substance. Very strong, semi-dwarf stems and excellent foliage. Suitable for novelty pots. 50 cuttings, \$4.00.

CRITERION

November 8

(Yoder—1955) Intermediate pink decorative with a vigorous, compact growth habit. A new and valuable year round pink pot plant variety. Also a fine cut variety for spring and fall. Best grown disbudded. 50 cuttings, \$3.25.



BLUE CHIP

With its partner, Portrait, Blue Chip has rapidly moved into the top spot among 9-10 week poms. Hard to beat!

1956 Novelty Section

BONNIE

November 10

(Yoder) Intermediate pompon. Very pleasing smooth pink. Temperature tolerance and general appearance much like Illini Igloo—flower some larger. Improves Pinkette form and color. Formal and hard. High temperature color retention is good. Spray crops late April thru mid-November. Cloth house mid-August thru mid-October. 50 cuttings, \$4.00.

DK. PK. PANDORA

November 10

(Yoder) Intermediate decorative. Dark pink. Selection from Pandora. Spray and short disbud programs mid-May thru June and September thru mid-November. Cloth house September thru mid-October. 50 cuttings, \$3.75.

SALMON PANDORA

November 10

(George) Intermediate decorative. Salmon. Selection from Bronze Pandora. Unparalleled color for fall cloth house and greenhouse. 50 cuttings, \$4.00.

SCINTILLATION

November 10

(Yoder) Intermediate pompon. Pink. Very vigorous. Superb cloth house variety mid-August thru mid-October. Greenhouse mid-September thru mid-November. Requires 60° bud initiation and better if finished cooler than this. 50 cuttings, \$4.00.

CELEBRATION

November 12

(Yoder) Intermediate pompon. Salmon pink with golden bronze overcast. Requires low temperature (max. 55°) finish for uniformity and color retention. Clean, productive habit. New, versatile color. Spray programs April thru June, mid-September thru mid-November. Cloth house September thru mid-October. 50 cuttings, \$4.00.

ANTHEM

November 12

(Yoder) Intermediate anemone. Pink. Production and durability exceed Memorial. Spray programs April thru mid-June and mid-September thru mid-November. Cloth house August thru mid-October. 50 cuttings, \$4.00.

DELMAR

November 15

(DePetris) Intermediate pink pompon. Distinctive dot color contrast. Spray crops and short disbuds March thru April; mid-September thru November. Cloth house mid-September thru mid-October. 50 cuttings, \$4.00.



JETFIRE

A fine strong deep red pomp. Color at its best in cool weather but still attractive at moderately high temperatures.



ILLINI ROSEGLOW November 25

(University of Illinois) Intermediate pompon. Pink. Requires low temperature (max. 55°) finish. Productive. Best disprayed. Mid-October thru November. Responsive in March. 50 cuttings, \$4.00.

PINK SUPREME December 10

Large anemone. Pink. Habit resembles Imp. White Supreme. 50 cuttings, \$3.75.

ALVODA December 25

(DePetris) Large decorative. Smooth Portrait pink. One of the best for spray programs late November thru February. Free growth. Habit, size and color improve Defiance, Debutante and Riviera. This variety contributes to the 14 week group what Almaga did to the 11 week group in the year round flowering programs. For a 14 week pink to use in a flowering program grow Alvoda. 50 cuttings, \$4.00.

SOPHILIA December 25

(DePetris) Latest small pink salmon. Similar to Snowcrest in size and habit. Natural season flowering. 50 cuttings, \$4.00.

DELAWARE

Another of last season's novelties that has been very well received. Delaware is without question the top bronze for pots. See page 2.

BRONZE AND RED

ORANGEADE

October 10

(Yoder) Intermediate daisy. Orange bronze. Vivid color, compact. Prolific garden variety. 50 cuttings, \$4.00.

RED ETHRELDA

October 15

Intermediate anemone. Coral red. Dwarf. Compact. Responsive. Spreads well. Best color retention with low temperature finish. Short treatment for pot plants mid-September thru mid-June. 50 cuttings, \$3.75.

RADIANCE

October 15

(Yoder) Intermediate decorative. Red. Breaks freely. Responds uniformly. Non-fading color. Medium procedure for April thru May and mid-September, early October pots. Color brighter, habit more prolific than Red Velvet. Valuable garden variety. 50 cuttings, \$4.00.

PAXON

October 20

(DePetris) Luminous bronze pompon with deeply serrated petals, resembling Illini Snowdrift but larger and fuller with small glossy, finely cut foliage. Blooms October 20. A very good novelty in the 8 week group. 50 cuttings, \$3.75.

SYBIL

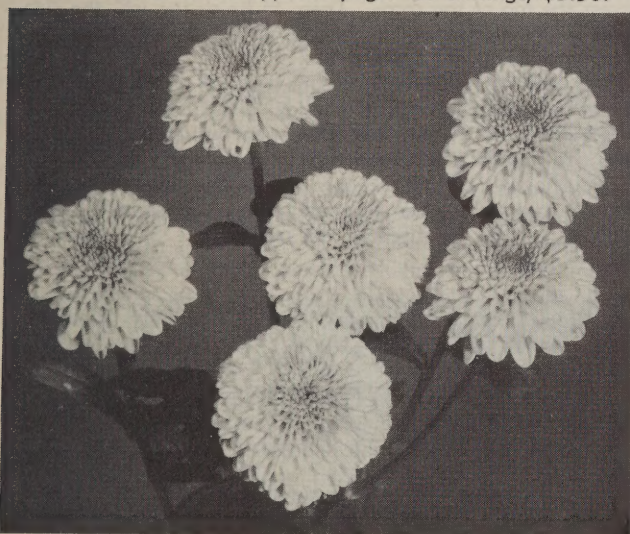
October 30

(DePetris) Intermediate daisy. Golden apricot. Productive. Durable. Has petallage and substance. Versatile and brilliant color. Spray programs May thru October. Cloth house August thru mid-October. Quite showy as a disbud. An unusual shade. 50 cuttings, \$4.00.

JETFIRE

November 5

(Yoder—1955) Intermediate flaming red decorative. A color that holds even in high temperatures. Outstanding in the cloth house. See opposite page. 50 cuttings, \$3.50.



BONNIE

A delightful smooth shell pink pompon. Not fussy as to temperatures for bud set.



CLIMAX

Better than any other orange pompon, Climax will hold its intense orange bronze color in hot weather.

CLIMAX

November 10

(Yoder) Intermediate pompon. Intense orange. Temperature tolerance of Thelma. Improved vigor and production. Vivid color stimulates demand for bronze. Spray crops April thru mid-November. Cloth house August thru mid-October. Holds its warm orange shade remarkably well in hot weather under glass. 50 cuttings, \$4.00.

AMBERHUE

November 10

(Yoder) Intermediate daisy. Orange-bronze. Improves Buccaneer in growth, form, production and color retention. Green eye. Durable. Spray programs May thru mid-June and mid-September thru October. Cloth house September thru mid-October. 50 cuttings, \$4.00.

ILLINI WAR PAINT

November 22

(University of Illinois) Large decorative. Smooth maroon red. Heavy, vigorous growth. Restrict to low temperature finish. Versatile as short disbud October thru December; as disbudded spray and pot plant. Use tall procedure for pots during same period. Cloth house mid-September to mid-October. Valuable for Christmas pot plants, but must be delayed to overcome tall habit. 50 cuttings, \$4.00.

OLNURA

November 22

(DePetris) Large anemone. Apricot bronze. Valencia size disbud. Superb color and form. Sharp response. Tall, vigorous, productive. Disbudded spray and short disbud programs March thru April and mid-September thru November. An outstanding DePetris achievement of superlative vigor and beauty. 50 cuttings, \$4.00.

PRICES FOR MORE THAN 50 OF A VARIETY ON ONE SHIPMENT

Note carefully instructions for ordering on page 8. No orders for less than 50 rooted cuttings of a variety accepted. Minimum total order, 500 cuttings.

50 Only	100-250 Per 100	300-450 Per 100	500-950 Per 100	1000 Up Per 100
\$2.75	\$5.25	\$5.00	\$4.75	\$4.50
3.00	5.75	5.50	5.25	5.00
3.25	6.25	6.00	5.75	5.50
3.50	6.75	6.50	6.25	6.00
3.75	7.25	7.00	6.75	6.50
4.00	7.75	7.50	7.25	7.00
5.00	9.75	9.50	9.25	9.00
6.25	12.25	12.00	11.75	11.50
7.50	14.75	14.50	14.25	14.00

Before You Go any Further...

Here are a few miscellaneous notes that might clarify some important details.

WHEN TO BENCH CUTTINGS (for normal flowering)

For a safe rule, bench cuttings directly to the flowering bench 3 weeks prior to the pinch dates shown throughout this list. Especially on the November-December flowering crops, many growers plant only two weeks prior to pinch dates. Growing conditions must be favorable if adequate stem length is to be achieved. It is possible, especially on the late December crops, to bench cuttings just before or on the pinch date, pinch in two weeks. Somewhat shorter stems will result, but with good flowers. Another possibility is to plant cuttings closer (6 x 4 inches) on the pinch date, allow them to grow no pinch. Normal stem length and fine flowers will result, but more cuttings are required.

WHAT IS A "RESPONSE GROUP"?

Note that all varieties in this guide are classified under a response group heading—"6-week varieties"—7-week, 8-week, etc. What does it mean and why is the term used?

It is primarily a term of use in connection with controlled flowering—under lights and shade. It refers to the number of weeks of short days needed to make the variety flower. For example, an 8-week variety is one which will "respond" (or flower) 8 weeks after short days are started. Starting short days is accomplished in summer with black cloth, in winter simply by discontinuing lights at night.

The response group classification is of use to the normal season grower, too. The 6 to 8-week varieties are generally the garden or hardies (flowering in late September thru October). The 9 to 11-week kinds are the November flowering ones, the 12 to 15-week kinds are the lates—December flowering. Nearly all cloth house crops take the 9 to 11's. Most pot mum growers use 9 to 11-week kinds, too.

PREMATURE BUD-SETTING

If cuttings are ordered to be delivered in winter or early spring (September 1 to May 1), they must be lighted to prevent bud-setting on very short stems. Use 60-watt bulbs 4 x 4 ft., 60 inches above soil. Light four hours per night (10 P.M. to 2 A.M.).

The Garden varieties and the early shading mums (such as Good News) are especially apt to throw premature buds.

Lower temperatures help to avoid early buds. Few varieties will set buds at 35-40° nights, even without lights. Some varieties (Good News, the hardies, etc.), if cuttings are planted to a very warm house (65° nights), will set a few buds even though they are lighted.

"DISSPRAY"

Partial disbudding can do wonders to improve quality of certain varieties of pompons—at certain seasons. The problem is, of course, that the spray tries to produce too many buds—so many that none of them can develop into good sized flowers. Removal of part of these buds is "disspray" procedure. You'll find the word in descriptions of many varieties in this Guide.

How to do it? As soon as the buds have separated enough so that individual buds can be removed conveniently, go thru and remove all but four or five buds, leaving the best 4 or 5 nearest the top of the spray. Then, to finish the job, the side shoots or "suckers" along the stems just below these five flowers should also be removed.

Some varieties at certain seasons (winter usually) tend to produce a clubby or too tight spray. The peduncles fail to elongate enough. Removal of the center bud as soon as convenient to handle it will help this problem.

If you haven't been doing this partial disbudding, pick out a bench that's throwing too many buds, "disspray" a few plants. You'll be surprised at the results.

INSTRUCTIONS FOR ORDERING

The minimum total order that can be accepted is 500 cuttings.

Fifty of each variety is the minimum that can be supplied.

More than 50 of a variety must be in multiples of 50.

Orders must be marked with a definite delivery date, such as May 10th, June 1st, etc. Orders marked "Early Delivery," "Deliver when ready," "Spring Delivery," are too indefinite.

In writing your order, please use special order blanks enclosed with this catalog.

LIMITATION OF WARRANTY

Geo. J. Ball, Inc., warrants to the extent of the purchase price that seeds, plants, or bulbs sold are as described on the container within recognized tolerances. Seller gives no other or further warranty, express or implied.

SUBSTITUTIONS

We will substitute varieties as good or better for any items not listed in this catalog unless order is marked **No Substitutions**.

SHIPPING INFORMATION

Special shipping instructions and address if different from your regular mail address should be shown on your order.

All cuttings are shipped Railway Express, Air Freight or Air Express, collect. If you have any preference, designate on your order; otherwise our shippers will use their best judgment. Cuttings are in perfect condition when they are accepted by the transportation company. Therefore, if there is any damage enroute from being broken, heated or frozen, **CALL YOUR EXPRESS or AIR FREIGHT AGENT** to inspect the shipment upon arrival, marking on express receipt or bill of lading the condition of the package and amount of damage, etc. **YOU MUST FILE CLAIMS**, as our responsibility ceases when the carrier accepts shipment. We cannot be responsible for the safe arrival of your cuttings. **Do not return cuttings to us or to the propagator.** Advise us of errors in shipment and we will make adjustment.

IMPORTANT: ABSOLUTELY NO CHANGES ON YOUR ORDER CAN BE ACCEPTED WITHIN 30 DAYS OF DELIVERY DATE.

Standards

WHITE

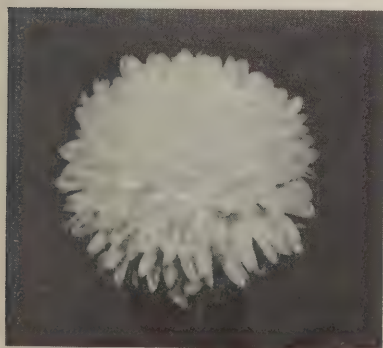
Variety and Description 8-Week Varieties—Pinch July 10

- Silver Sheen.** Pure white medium sized incurved.....
Used considerably for September shaded crops under glass. Much grown at its normal date.
- White Chief.** Intermediate incurved.....
- Christina.** Small incurved. Pot plant.....

9-Week Varieties—Pinch July 16

- Silver Queen.** A valuable white Fujii mum.....
- Marbelhead** (Yoder—New). An attractive pure white incurved standard....
Small incurve. It shows special promise on the short (and regular) disbud program from May through October, although it can be flowered through the northern winter (as a disbud). No pinking at low temperatures. It is especially valuable as a disbud during hot summer—holds its size well. Also recommended as a big mum for normal season and early fall shaded crops. Has cool temperature tolerance of Silver Sheen.
- Granite State.** Small semi-incurved. Pot plant.....
- Luna** (Yoder—New). Small cream incurve. A good pot plant variety.....
Has good sized flower, quite compact spreading habit, prompt bud set even under cool temperatures, and uniform flower development. Short procedure (see page 77) is recommended. Color is a pleasing cream. Good round the year.
- Ambassador.** Medium large semi-incurved white.....
Used heavily in the South for normal season flowering.
- Nightingale.** Beautiful white spider variety with chartreuse center.....
- Queen's Lace.** Very artistic pure white Spider mum.....
Does very well flowered mid-March to mid-June, then again in early fall. Some tendency to burning of petals and dark green centers during high summer temperatures, but it is grown considerably thru the summer. Also a very showy pot plant—about the same seasons. Queen's Lace and its sport are not of the "hooked" lace types—ends of petals hang straight so they don't tangle with one another.
- Kay Tashima.** Spider
- Wilson's White.** A large flowered pure white incurved with loose petals.....
Wilson's White still is by a wide margin the number one white pot Mum today. It flowers well any month of the year, is quite compact yet spreading in habit. It breaks well from the pinch, producing a fine head of large, pure white flowers. It sets bud easily and evenly. Its only flaw is some tendency toward brown centers as the flowers mature especially in winter. The slower growing schedules recommended in this guide for the winter crops (3 to 4 weeks of lights) will usually give the plant the extra strength needed to properly develop these center petals. For the same reason it is suggested that (in winter) the plants be left in the greenhouse under full sun until fully open. They will very likely develop brown centers if moved to a dark retail shop just as color shows.
- Albatross.** A medium large incurved white standard.....
It is used most heavily in California cloth house and greenhouse production. Also grown for September-October flowering under glass, and for normal flowering. A reliable old-timer.

Normal Flowering Date	Price 50 Only
Oct. 20	\$3.25
Oct. 20	3.50
Oct. 23	3.50
Oct. 25	3.75
Oct. 25	4.00
Oct. 25	3.25
Oct. 25	4.00
Oct. 25	3.50
Oct. 25	3.25
Nov. 1	3.25
Nov. 1	3.75
Nov. 1	2.75
Nov. 1	3.00



MARBLEHEAD

Brand new pure white standard. Looks good as summer and fall standard, and as disbud same period.

PRICES FOR MORE THAN 50 OF A VARIETY ON ONE SHIPMENT

Note carefully instructions for ordering on page 8. No orders for less than 50 rooted cuttings of a variety accepted. Minimum total order, 500 cuttings.

50 Only	100-250 Per 100	300-450 Per 100	500-950 Per 100	1000 Up Per 100
\$2.75	\$5.25	\$5.00	\$4.75	\$4.50
3.00	5.75	5.50	5.25	5.00
3.25	6.25	6.00	5.75	5.50
3.50	6.75	6.50	6.25	6.00
3.75	7.25	7.00	6.75	6.50
4.00	7.75	7.50	7.25	7.00
5.00	9.75	9.50	9.25	9.00
6.25	12.25	12.00	11.75	11.50
7.50	14.75	14.50	14.25	14.00

WHITE STANDARDS

Variety and Description 9-Week Varieties—Continued

White Mary Garden. White sport from Mary Garden. Spider.....
Snow White. Large incurved white.....

10-Week Varieties—Pinch July 22

Betsy Ross. Large incurved.....
Giant Betsy Ross. A very showy, nearly pure white large incurved standard....
 Because it needs heat to develop properly, and because it stands summer heat during flowering rather well, it is by an easy margin the number one standard for the summer crop. We use Giant Betsy Ross in our greenhouse crop from June 1 till mid-September. It is long stemmed, and quite large flowered. We find that Giant Betsy Ross (sport of Betsy Ross) seems harder and a better shipper than the parent variety. Excellent at normal season.

White Rayonnante. Spider.....
Indianapolis White. Medium large incurved pure white standard.....

Definitely the number one white standard on the list, Ind. White is known for its reliability in bud setting (will set and flower at 50°), and because it rarely shows a center. Its incurved flower type makes it a good shipper, and it does hold up well. It is excellent at normal season. Used heavily in the greenhouse mid-April thru early June and again early October thru Christmas. It tends to sunburn if flowered in very hot weather although some growers are using it (in pots) in the Southwest in midsummer under "air wash" cooling. The Indianapolis varieties are also important as pot Mums—roughly the same season as described above. They are the only variety much used for single stempot production because of their shorter stems. As a pot variety they are not particularly free breakers, so are usually potted with one extra cutting per pot.

Richard Mandel. Small incurved. Pot plant.....
Susan Leighton (New). Large spider. Ivory white.....

Standard and pot plant program. Tall procedure (see page 77) for pots October thru November. Intolerant of low light intensities. Finish cool. Supplements Queen's Lace with a much showier flower.

Jean Elizabeth. Large semi-incurved.....
Crystal Queen. A sport from Orchid Queen.....

Improves Jean Elizabeth in clarity of color and compactness of flower. The "Queens" are used for the winter greenhouse crop—flowered from November 1 thru June 15. They are quite large flowered, have some tendency to show centers which is much improved by interruption. They will sunburn in direct hot sun. Stems are long and firm.

White Pockett. Large incurved.....
Monument. Intermediate incurved.....
White Fern Edwards. Medium incurved white.....
Kegon's White. Spider.....

11-Week Varieties—Pinch August 5

Sterling. Large incurved.....
Marketeer. Intermediate semi-incurved.....
Mefo. Very fine large, tightly incurved, creamy white standard.....

Well grown and at their proper season, they are among the finest and most showy of all the standards. They are used for early greenhouse shading, for the January-March greenhouse lighted crop. They are flowered somewhat clear thru from early November thru early June. Their main shortcoming is tendency for occasional crops, especially in summer-early fall, to show open centers. Interruption promises to overcome this. They also must be cooled as they flower (in winter) to develop flower size and substance—and to insure hard stems. They are quite long stemmed, and reliable in bud setting.

Cream Mefo. A cream colored sport from Mefo. Good form and a full flower.
White Frick. Intermediate incurved.....
Indiana Market. Intermediate incurved, similar in habit to December White..

12-Week Varieties—Pinch August 10

White Peter John. Medium reflexed, for outdoor and cloth house growing.....
Chattanooga. Large incurved white.....

Much used for normal flowering. Some southern growers light the Chattanooga varieties for December thru March flowering. They are quite large flowered, especially finished at cooler temperatures.

Normal Flowering Date	Price 50 Only
Nov. 1	\$3.75
Nov. 1	3.00
Nov. 5	3.00
Nov. 5	3.00
Nov. 5	3.50
Nov. 5	2.75
Nov. 5	3.75
Nov. 6	3.75
Nov. 10	3.50
Nov. 10	3.25
Nov. 10	3.50
Nov. 10	3.25
Nov. 10	3.00
Nov. 10	3.00
Nov. 15	3.50
Nov. 18	3.25
Nov. 20	3.00
Nov. 20	3.50
Nov. 20	3.50
Nov. 20	3.75
Nov. 25	3.75
Nov. 25	3.25

WHITE STANDARDS

Variety and Description	12-Week Varieties—Continued
December Glory. Medium large incurved white standard.....	The number one standard for late normal flowering.
Margaret Moeller. Intermediate incurved.....	
13-Week Varieties—Pinch August 15	
December White. Intermediate incurved.....	
White Mistletoe. Intermediate incurved.....	
Snowline. A large showy white flower.....	Form of flower resembles that of the Pockets and Helen Frick. Must have 60° to set buds.
Smith's White. A semi-incurved white.....	Heavily used for late normal blooming. Holds well for Christmas.
Smith's Cream White. Cream colored sport of Smith's White.....	

Normal Flowering Date	Price 50 Only
Dec. 1	\$3.25
Dec. 3	3.50
Dec. 5	3.50
Dec. 5	3.75
Dec. 10	3.50
Dec. 13	3.25
Dec. 13	4.00

YELLOW STANDARDS

8-Week Varieties—Pinch July 10

Harvest Golden. Large yellow decorative. Good quality flower.....	
Honeysweet. (DePetris). Semi-incurved disbud. Medium yellow.....	
Tall procedure (see page 77) for May pots. Showy garden variety as a disbud. Durable at high temperatures.	
Gold Lode. Intermediate reflexed. Pot plant.....	
Valiant. (DePetris). Small, semi-incurve. Moonlight yellow.....	
Celestra. Small semi-incurved.....	
Sunburst. (DePetris—New). Medium large reflexed decorative.....	
A promising new yellow pot mum. We don't look for it to replace Bonnaffon, but at certain seasons it has telling advantages. In the hot weather of summer and early fall, it holds flower size better, tends to flower more evenly (at all seasons). It is recommended for pot growing (tall procedure, see page 77) from early May thru October. It has a fine golden shade (deeper than Bonnaffon), is a free breaker, makes vigorous growth with lots of flowers. It is naturally some taller, but if properly scheduled, height is no problem. Modified second pinch procedure helps keep it short. Not recommended for northern winters. Flower type is more loose, informal than Bonnaffon, especially as it ages. May be grown as an early 9-week kind. Also looks good as a short disbud from May thru December.	

Oct. 15	3.50
Oct. 15	4.00
Oct. 15	3.50
Oct. 15	4.00
Oct. 15	3.75
Oct. 20	4.00

Mrs. Kidder. Intermediate incurved.....	
Butterball. Intermediate incurved. Pot plant.....	
Blazing Gold. A medium sized semi-incurved bright yellow standard.....	
Blazing Gold is used heavily as a pot mum where it is important the year round except for January-February (tends to bronze). It is a reliable bud setter, good short pot plant habit, has a hard flower that will stand abuse. It does not break freely from the pinch so is often given one extra cutting per pot. Blazing Gold is coming into more use as a disbudded flower—easy to grow and again, durable.	

Oct. 20	3.50
Oct. 20	3.50
Oct. 23	3.00

Georgia (New). Intermediate incurve.....	
Flowered at seasons for which it is recommended, Georgia will make a very showy yellow pot mum. It is large flowered, naturally a compact grower, has a pleasing medium deep yellow color. It is recommended from early April thru November, to be grown on short procedure (see page 77). Not happy under low light conditions of northern winters. It sets bud rapidly and uniformly. A definite improvement on Blazing Gold.	

Oct. 24	4.00
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9-Week Varieties—Pinch July 16

Smith's Superlative. Intermediate semi-incurved.....	
Moribana. Yellow spider.....	
Yellow Ambassador. Intermediate semi-incurved.....	
Luyona. Large yellow spider mum with quality blooms.....	
Excellent as disbud—short or regular (see page 77).	
Sunglow. Intermediate incurved.....	
Golden Glory. Intermediate incurved.....	
Yellow Lace. Sport of Queen's Lace. Pot plant. Spider. See Queen's Lace.....	
Gold Lace. Golden yellow sport. Spider. Pot plant.....	
Hooked Yellow Lace. Sport of Yellow Lace. Spider.....	
The tube ends open and incurve, presenting an attractive hooked appearance.	

Oct. 25	4.00
Oct. 25	3.75
Oct. 25	3.50
Oct. 25	3.75
Oct. 25	3.50
Nov. 1	3.75
Nov. 1	3.25
Nov. 1	3.25
Nov. 1	3.75

YELLOW STANDARDS

Variety and Description

9-Week Varieties—Continued

- Good News.** Medium large incurved standard, golden yellow.....
One of the top yellow standards, and definitely number one for the summer-early fall period. In our experience it is by far the best suited yellow for the June 1-Nov. 1 greenhouse crop. It is heavily used by the California cloth house and greenhouse growers. It sets buds very promptly, and stands extreme summer heat well. If anything, it's on the short stemmed side, though not a problem. The flower is exceptionally hard and ships well. Fine at normal season. It will sunburn if not protected.
- Yellow Ivanhoe.** Golden yellow sport. Excellent as disbud.....
- Yellow Albatross.** Large incurved, light lemon yellow.....

Normal
Flowering
Date

Price
50 Only

Nov. 1

\$2.75

Nov. 1

3.50

Nov. 1

4.00

10-Week Varieties—Pinch July 22

- Imp. Indianapolis Yellow.** Improved deeper yellow selection. Pot plant.....
- Indianapolis Yellow.** Medium large incurved yellow mum.....
Ind. Yellow and its two sports are by far the most used yellow standard varieties. The color is a fairly deep lemon yellow which actually seems to be in just as good demand as the deeper intense golden yellow of some other kinds. For full details on the Indianapolis Mums, see Indianapolis White, page 10. Fine at normal season. An important pot plant variety.
- Dark Indianapolis Yellow.** Slightly shorter in growth habit than Ind. Yellow....
Pot plant.
- Yellow Rayonnante.** Yellow sport of Rayonnante. Spider.....
- Sue Sally Jones.** Lemon yellow spider.....
- Yellow Curly Spider.** Clear yellow spider mum. Good shipper.....
- Yellow Waikiki.** Lemon spider.....
- Kauai.** Lemon spider
- Yellow Queen.** A large semi-incurved yellow standard.....
Color is a medium yellow. For more details on the "Queen" family, see Crystal Queen, page 10).

Nov. 5

3.00

Nov. 5

2.75

Nov. 5

3.00

Nov. 5

3.50

Nov. 5

3.25

Nov. 5

4.00

Nov. 5

4.00

Nov. 5

4.00

Nov. 10

3.25

Nov. 10

3.75

Nov. 10

3.75

Nov. 10

3.50

Nov. 10

3.50

Nov. 12

3.50

11-Week Varieties—Pinch August 5

- Lorraine.** Spider.
- Yellow Marketeer.** Yellow sport from Marketeer.....
- Bonnaffon DeLuxe.** A small incurved standard, bright golden yellow.....
Bonnaffon has proven so well adapted to pot Mum growing that today, well over half of all pot mums grown are of this one variety. It is compact, yet spreading in growth. It will average 2½ to 3 breaks from a pinch if given reasonably favorable conditions. It sets buds well, but more evenly if held at 65° than at 60°, yet seems to stand high summer temperatures at least fairly well. Most important of all, it will make a nice plant twelve months of the year if given fair handling. The several fine new yellow pot varieties (Sunburst, Georgia) will no doubt give Bonnaffon competition, but we still look for it to be the number one pot variety for many more seasons. Fine at normal season.
- Maj. Bonnaffon.** Medium sized incurved.....
An oldtimer that ships well and is being revived due to popular demand.
- Friendly Rival.** Intermediate incurved.....
- Yellow Mefo.** Very fine large incurved yellow standard.....
Like its white counterpart, it is tough to beat when well done. For full details on the Mefo varieties, see Mefo, page 10. Excellent at normal date.
- Purdue.** Intermediate incurved.....
- Harvester.** Intermediate incurved.....
- Marie DePetris.** Intermediate incurved.....

Nov. 15

3.75

Nov. 18

3.50

Nov. 20

2.75

Nov. 20

3.75

Nov. 20

3.25

Nov. 20

3.00

Nov. 20

3.75

Nov. 23

3.25

Nov. 23

3.25

12-Week Varieties—Pinch Aug. 10

- Yellow Peter John.** Medium reflex, lemon yellow.....
- Dark Yellow Chattanooga.** Deep yellow sport.....
- Yellow Chattanooga.** Large incurved yellow standard.....
See notes under Chattanooga, page 10. Good at normal date.
- Golden Pearson.** Intermediate incurved.....

Nov. 25

3.75

Nov. 25

3.50

Nov. 25

3.50

Nov. 25

3.25

YELLOW STANDARDS

Variety and Description	12-Week Varieties—Continued	Normal Flowering Date	Price 50 Only
Sungold. Intermediate incurved.....		Nov. 25	\$3.75
Mrs. Calkins. Intermediate incurved.....		Nov. 25	3.75
Yellow Glory (New). Intermediate incurved, lemon yellow.....		Dec. 1	3.75
Color mutation from December Glory. Standard and short programs mid-November thru January, (see page 77).			
Golden Mrs. Ross. Large incurved.....		Dec. 3	3.25
Yellow Moeller. Sport of Margaret Moeller.....		Dec. 3	3.50
13-Week Varieties—Pinch Aug. 15			
Golden Mistletoe. Intermediate incurved.....		Dec. 5	3.75
Chalice. Intermediate incurved.....		Dec. 5	3.75
Tobin's Yellow. Medium sized semi-incurved yellow standard.....		Dec. 13	3.25
Tobin's is the yellow most widely used for late December flowering normally—without lights.			
Meteore. Intermediate semi-incurved.....		Dec. 13	3.50
Dauntless. Small semi-incurved.....		Dec. 13	3.75
8-Week Varieties—Pinch July 10			
Pink Chief. A medium sized incurved pink standard.....		Oct. 15	3.50
Used considerably for early normal season flowering. Will set and develop a fair quality flower under extreme heat conditions; color fades so completely it becomes salable as a white.			
Major Bowes. Intermediate incurved lavender standard.....		Oct. 20	3.75
For early flowering outdoors and as a pot plant in the greenhouse.			
9-Week Varieties—Pinch July 16			
Sugarplum. Intermediate incurved.....		Nov. 1	3.75
Mrs. Walker. Spider.....		Nov. 1	3.75
Mary Garden. A pink spider.....		Nov. 1	3.50
Bunbu. Lavender spider.....		Nov. 1	3.25
10-Week Varieties—Pinch July 22			
J. W. Prince. Intermediate incurved. Pot plant.....		Nov. 5	3.50
Rayonnante. Spider		Nov. 5	3.50
Indianapolis Pink. A medium large incurved standard, a bright pink shade....		Nov. 5	3.00
It is this fine color plus the general good habits of the Indianapolis varieties that has made this definitely the number one pink standard for cut. Like the bronze, it will fade badly during hot weather, but it is much used the rest of the year—both for normal season and year round production, fall till spring. See Ind. White note, page 10.			
Orchid Queen. Large semi-incurved.....		Nov. 10	3.50
Lavender Queen. Lavender sport of Orchid Queen.....		Nov. 10	3.25
Flower more compact and color more intense than that of Dark Orchid Queen.			
Dark Orchid Queen. Large semi-incurved orchid pink standard.....		Nov. 10	3.25
A considerably larger flower and a deeper shade than Indianapolis Pink. Fine at normal season, and somewhat better adapted to January-February flowering under glass than Ind. Pink. Fades in high temperatures of July-August. For more on the "Queens," see Crystal Queen page 10.			
Peggy Hoover. Spider.....		Nov. 10	3.75
Queen of Pinks. A small incurved pink standard.....		Nov. 10	3.00
Definitely the number one pink pot variety. It has a compact habit of growth, and does creditably well at all seasons except that like most pinks, it fades in summer. On the left side of the ledger, it tends to set bud unevenly, doesn't break too generously from the pinch, which tends to result in a chimney shaped plant. Many growers give it one extra cutting per pot. It does have a very pleasing soft pink color, and a desirable rounded flower form. Criterion overcomes some of the troubles and may offer competition in the pink pot mum trade. But old "Queen" is the tried and true, so will not be dropped too fast.			
Masumi Pink. Large incurved, deep pink.....		Nov. 10	3.25
Pink Pockett. Large incurved.....		Nov. 10	3.50
Phillip Kay. Large incurved. Lavender.....		Nov. 10	3.00
Pink Fern Edwards. Large incurved. Lavender.....		Nov. 10	3.00

PINK STANDARDS

Variety and Description		Normal Flowering Date	Price 50 Only
11-Week Varieties—Pinch Aug. 5			
Calvert's Pink (New). Intermediate incurve.....	A very pleasing orchid pink suffused with salmon. Suggested for standard or short crops November thru January. Medium treatment (see page 77) for pots in same period. Must be kept at 55° or lower after buds show—to prevent stalling. Rich color unsurpassed for Thanksgiving season.	Nov. 17	\$4.00
Aristocrat . Large incurved. Deep lavender.....		Nov. 20	3.25
Helen Frick . Intermediate incurved. Used some for pots.....		Nov. 20	3.50
Rose Delight . Medium incurved deep rose.....		Nov. 20	3.25
Thanksgiving Pink . Intermediate reflexed. Pot plant.....		Nov. 23	3.50
Ed. Seidewitz . Intermediate incurved.....		Nov. 23	3.50
12-Week Varieties—Pinch Aug. 10			
Light Peter John . Medium reflexed. Lavender.....		Nov. 25	3.00
Dark Pink Peter John . Large decorative.....	Color intensification of Pink Peter John.	Nov. 25	3.75

13-Week Varieties—Pinch Aug. 15

Pink Mistletoe . Intermediate incurved.....	Dec. 5	3.75
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BRONZE AND RED STANDARDS

8-Week Varieties—Pinch July 10

Mayford's Triumph . Large orange bronze decorative.....	Oct. 15	3.75
Similar in color to that of Royal Bronze.		
Amber Bright . Golden bronze semi-incurved.....	Oct. 15	3.75
Very pleasing as a disbud—flowers about 4 inches across.		

9-Week Varieties—Pinch July 16

Dalwin . Large light bronze spider.....	Oct. 25	4.00
Hilda Bergen . Intermediate incurved.....	Oct. 25	3.50
Glitters . Intermediate reflexed.....	Oct. 28	3.75
Red Glitters . Red sport of Glitters.....	Oct. 28	3.75
Antique . A bronze spider mum for cut flower and pot plant use.....	Nov. 1	4.00
Ivanhoe . Small incurved.....	Nov. 1	3.50
Apricot Queen . Intermediate incurved.....	Nov. 1	3.75
Detroit News . Fine medium incurved bronze standard.....	Nov. 1	3.00

Detroit News is easily the number one bronze standard. Reasons: A fine strong bronze color, fast and uniform bud setting, plus an attractive yet hard flower that will ship anywhere. We find that it does very well under glass any time of year except during warm bright weather which will fade the color. Especially nice at normal season. We use it from mid-September till April, depending on Mrs. Roy for the hot weather period.

Royal Bronze . Large orange bronze disbud.....	Nov. 1	3.25
Because of its unusually warm and attractive color it is used some as a pot mum, although it must be delayed to overcome a tendency to tallness. Fine as a cut disbud, too.		

10-Week Varieties—Pinch July 22

Waikiki . Spider	Nov. 5	3.75
Gena Harwood . Spider	Nov. 5	3.75
Nomago . Bronze spider	Nov. 5	3.75
Mamoru . Spider	Nov. 5	3.75
Indianapolis Bronze . Medium large incurved bronze standard.....	Nov. 5	3.00

A good bronze during the cooler months of the year and heavily used. Like most bronzes, it fades seriously in warm weather. Useful as a pot plant. See Indianapolis White, page 10 for more details.

BRONZE AND RED STANDARDS

Variety and Description 10-Week Varieties—Continued

Variety and Description	Normal Flowering Date	Price 50 Only
Indianapolis Golden Bronze. Quilled; semi-incurved. Pleasing color.....	Nov. 5	\$3.75
Indianapolis Apricot (Hillside—New). Intermediate incurve.....	Nov. 5	3.75
Warm apricot bronze especially when flowered during cool weather. A more versatile color than its parent Ind. Bronze. Size slightly smaller, habit stronger. Standard and short crops mid-September thru mid-May. Tall procedure (see page 77) for pots same period.		
Dk. Indianapolis Bronze. Dark reddish bronze sport.....	Nov. 5	3.25
Delaware. A fine strong red-bronze color.....	Nov. 8	3.25
Excellent, compact, yet free breaking pot plant habit, and easy fast bud setting habit, combine to make this almost a sure bet for the number one year round bronze pot mum. Flowers are of large incurved standard type, reaching 4 inches under favorable conditions, disbudded. In cool weather the color compares to Mrs. Roy. In high temperature periods it lightens some, at the extreme, to about the medium golden bronze of Oak Leaf, but is still a pleasing shade. Excellent response and quality at all seasons, including normal. See page 6.		
Anaconda. Large incurved. Deep coppery red.....	Nov. 8	3.50
Oakdale. Intermediate incurved. Buff bronze.....	Nov. 10	4.00
Bronze Orchid Queen. Apricot buff sport.....	Nov. 10	3.50
Mrs. Stahelin. Intermediate incurved pot plant. Reddish bronze.....	Nov. 10	3.75
Mrs. Roy. Medium large incurved maroon-bronze, buff reverse.....	Nov. 13	3.25
We find Mrs. Roy especially desirable for the late summer-early fall greenhouse crop, and at normal date. It does lighten some in color in the heat, but remains a definitely salable color. Responds evenly and has never shown a center for us. A most attractive and unusual color.		
Garnet King. Intermediate reflexed. Pot plant.....	Nov. 13	3.50

11-Week Varieties—Pinch August 5

Mrs. Eisenhower. A vivid golden bronze spider.....	Nov. 18	3.75
Calvert's Gold (New). Intermediate semi-incurve, pleasing orange bronze....	Nov. 20	4.00
Form and non-fading color improve Apricot Queen. Standard and short crops mid-October thru April. Medium procedure for pot plants in same period. At its best October thru January—finished cool.		
Bronze Frick. Intermediate incurved.....	Nov. 20	3.50
Stanley Naydo. Large incurved, bronze sport of Armistice Day.....	Nov. 20	4.00

12-Week Varieties—Pinch August 10

Bronze Peter John. Medium reflexed. Rosewood.....	Nov. 25	3.75
Gladys Pearson. Intermediate incurved. Light buff bronze.....	Nov. 25	3.50
Oak Leaf. Intermediate incurved. Bronze.....	Nov. 25	3.25
Muto's Crimson. Intermediate semi-incurved.....	Dec. 1	3.50

13-Week Varieties—Pinch August 15

Bronze Mistletoe. Intermediate incurved.....	Dec. 5	3.75
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PRICES FOR MORE THAN 50 OF A VARIETY ON ONE SHIPMENT

Note carefully instructions for ordering on page 8. No orders for less than 50 rooted cuttings of a variety accepted. Minimum total order, 500 cuttings.

50 Only	100-250 Per 100	300-450 Per 100	500-950 Per 100	1000 Up Per 100
\$2.75	\$5.25	\$5.00	\$4.75	\$4.50
3.00	5.75	5.50	5.25	5.00
3.25	6.25	6.00	5.75	5.50
3.50	6.75	6.50	6.25	6.00
3.75	7.25	7.00	6.75	6.50
4.00	7.75	7.50	7.25	7.00
5.00	9.75	9.50	9.25	9.00
6.25	12.25	12.00	11.75	11.50
7.50	14.75	14.50	14.25	14.00

Pompons

WHITE

Variety and Description	6-Week Varieties—Pinch July 1	Normal Flowering Date	Price 50 Only
Polar Ice. Large decorative, white.....		Sept. 15	\$3.50
White Cushion. Cushion, decorative, white.....		Sept. 15	3.00
Ostosa. Pure white, medium sized pomp.....		Sept. 25	3.75
Here's a top-notch new white to go with your spring garden Mums in pots. It has good compact pot plant habit, is free blooming and early. Also fine in the garden at its normal date.			
White Wonder. Intermediate pompon.....		Oct. 1	3.75
Chris. Columbus. Standard white garden variety for pots.....		Oct. 1	3.25
For spring and fall. It's a pleasing cream colored medium sized decorative. Chris. Columbus responds evenly, is free blooming and outstanding for pot culture. Shows up well at normal season as a garden variety too.			
	7-Week Varieties—Pinch July 5		
Avalanche. Large decorative.....		Oct. 5	3.75
Horizon. "The" early garden white for late summer.....		Oct. 5	3.50
Also early fall cut flower use. It's pure white, and a more formal type flower than Chris. Columbus. Nice as a garden variety at normal season, too.			
Gardenia (DePetris—New). Intermediate decorative.....		Oct. 8	4.00
A very promising large flowered creamy white for the greenhouse pot plant trade. Gardenia is a compact grower yet vigorous enough to break well and make a head of flowers. It is at its best from mid-April thru October, good in hot weather. It will pink at low temperatures so is not recommended for winters up North. Requires medium treatment (page 77).			
Maestro. White pompon. Dwarf, compact growth.....		Oct. 10	3.75
Spreads well and is excellent for borders and pot plants in spring and fall.			
Classic. Another important garden variety for cut flowers.....		Oct. 10	3.75
It's smaller flowered than Horizon, and of semi-formal flower type. Fine thru late summer and up to normal date.			
Silverplate. A white decorative.....		Oct. 12	3.50
Vigorous and productive outdoor cut flower and spring pot plant variety.			
	8-Week Varieties—Pinch July 10		
Irene. Small pompon.....		Oct. 15	4.00
Pilgrim (Yoder—New). Intermediate pompon.....		Oct. 15	4.00
Clear white. Temperature tolerance of Chris. Columbus. Improving that variety in all respects. Short procedure (see page 77) for April thru June and September thru mid-October pot plant program. Durable, compact garden variety.			
Blizzard (Yoder—New). Small formal pompon, clear white.....		Oct. 15	4.00
A versatile and very promising new white pomp in the 8 week class. Actually has the vigor and quality of a 9 or 10 week variety. It's pure white, good spray formation, and a good producer. It is recommended for northern greenhouse flowering from May thru October—especially good in hot weather. Fine in the early cloth house—July thru September. Will set bud at below 55°.			
Calif. Wh. Daisy. Intermediate white single.....		Oct. 15	3.75
For the very early cloth house.			
Norona. A good medium sized white pompon.....		Oct. 15	3.75
For the early cloth house—from early August on. Nice at normal date.			
Silver Ball. Large pompon. White.....		Oct. 15	3.00
Creampuff. Intermediate cream white single.....		Oct. 20	3.50
A beautiful new color for May and June.			
Pristine. A pure white medium large formal pompon.....		Oct. 20	3.00
Its exceptional versatility has made it one of the top white poms on the list. It's excellent in the greenhouse from late April thru early June and again in early Fall. It's heavily used in the August-early September cloth house and in the winter crop in Florida. It produces well, sets bud easily. Somewhat susceptible to verticillium. Pristine is a thoroughly tested, reliable "bread and butter" white pomp. In popularity among the 8 and 9 week whites, it ranks along with Keepsake.			
Minong. Small pompon.....		Oct. 20	4.00
Silvertone. Intermediate white daisy.....		Oct. 24	3.50
Similar in habit to Reward and Buckskin. August and September cloth house and May thru October in the greenhouse.			

WHITE POMPONS

Variety and Description	9-Week Varieties—Pinch July 16	Normal Flowering Date	Price 50 Only
Popcorn. Intermediate pompon. See notes on White Popcorn.....		Oct. 25	\$3.50
White Popcorn. A medium large pompon, white with cream cast..... Unlike its parent, Popcorn, it shows no trace of pink if flowered at low temperatures. These Popcorn varieties are by far the heaviest producers of all the whites—1 1/2 bunches per foot not uncommon in the cloth house where they are widely used. In the greenhouse in mid and late summer they will stand heat without delay and injury to flower form. They are however, not a pure paper white, and will flower on substantially shorter stems than comparable varieties. Excellent at normal date.		Oct. 25	3.50
Monty. (U. of Mont.—New). Large clear white, decorative..... Monty has much to recommend it as a white for the greenhouse pot plant trade. It is compact and spreading in growth, flowers are large and pure white. It flowers well from March thru December in the North (year round down South). It will stand up reasonably well under hot summers. It will not show brown centers. Monty does have a somewhat quilled petal effect which may or may not be a fault. It is not recommended for double pinch. Use medium procedure (see page 77) for schedules.		Oct. 25	4.00
Keepsake. Number one among the 8 and 9 week white pomps..... Because it does well over such a long period. It's a white pompon with slight cream cast—and about the size of Gold Coast. It has good bud setting habits, will delay only under the most extreme heat, produces well, and has a desirable spray. We find it excellent in the greenhouse from early May right thru the summer and up to its normal date, although Whitetop gives it hard competition in May-June and September-November. It's fine in the cloth house till cool weather. The cooler weather of April (under glass) or October in the cloth house will cause it to pink some, and tend to clubbiness. Very nice at normal season.		Oct. 25	3.00
White Keepsake. (Ralph Luce & Son—New) Intermediate ivory..... A pompon. Selection from Keepsake. Like White Popcorn, it is devoid of pink tinges at low temperatures. Spray programs April thru October. Cloth house July thru mid-October. At high temperature finish, more ivory than Keepsake.		Oct. 25	4.00
Pinocchio. A pure white, tiny button type flower..... It provides welcome variety from the ever-present "pomp". It's fine from mid-May thru to normal season under glass, and from August thru mid-September in the cloth house. It buds promptly, and is a fair producer. Especially popular for June and September weddings.		Oct. 25	3.50
Songster. A pure white medium sized formal..... Altho it has a rather limited season in our experience, it is hard to beat during these periods. It's at its best from late August till normal season in the greenhouse. Stands heat, in fact needs it. Not recommended for cloth house. Fine at normal date.		Oct. 25	3.50
Cottontop. Small pompon.....		Oct. 25	4.00
Shooting Star. Intermediate single.....		Oct. 25	4.00
Vesta. A glistening pure white button.....		Oct. 25	3.50
Arcadia. Intermediate pompon		Oct. 28	3.75
Silver Cloud. Intermediate white single..... Heavily petalled, better form than Halo. A good producer. Recommended April thru October with use restricted to the greenhouse.		Nov. 1	3.50
Halo. A pure white daisy..... Exceptionally good high temperature performance. Halo and the very attractive Cream Halo are at their best from mid-May thru September under glass. Must be watched in the cloth house for tendency of centers to rot; cutting it on the close side helps.		Nov. 1	3.50
Cream Halo. Excellent cream colored sport of Halo.....		Nov. 1	3.75
Sea Gull. Intermediate pompon.....		Nov. 1	3.50
Alaska. (Yoder—New) Intermediate white anemone..... White cushion. Somewhat resembles Shasta but perhaps more daisy like—less cushion center (see photo page 3). It is a dazzling pure white, quite large flowered and showy. It is a real good producer, sets bud well at marginal temperatures. A rather tall grower, it can be used in 10 week schedules. It does well in the greenhouse from mid-April thru October, under cloth from July till mid-October. It stands summer heat under glass with less delay, less loss of cushion, and less petal curling than Shasta. Disspraying (page 8) helps.		Nov. 1	4.00
White Doty. Large pompon.....		Nov. 1	3.50
Venona. (DePetris—New) Large white daisy..... Suitable for sprays or disbuds, has a prominent large disc. Blooms are produced on vigorous growth and strong stems; responds in 9 weeks.		Nov. 1	3.50

WHITE POMPONS

Variety and Description **10-Week Varieties**—Pinch July 22

Freedom. Intermediate pure white single.....
Outstanding for spray formation and flower substance. Recommended for August and September cloth house, and May thru November in the greenhouse. Best white daisy for September-October cloth house.

Whitetop. Fine glistening white medium large decorative pomp.....
See color photo page 3. Whitetop has had by far the fastest rise to full commercial acceptance of any new mum introduced in recent years. It is one of the two top white pomps on our list. Whitetop is exceptionally versatile. It flowers well in the greenhouse from mid-April till very hot weather. It's excellent again from mid-September thru its normal season. It is very widely used under cloth both up north (fall), and in Florida (winter). It does tend to become uneven under glass in very hot weather. Sets buds well at marginally low temperatures. Ships well. Not at its best if given less than recommended period from plant to flower.

Iceberg. (Yoder—New) Large pompon.....
Outstanding—probably number one—as a white disbud year round. It's tall and vigorous, pure white, makes a fine large round pure white flower. Sets bud at marginal temperatures, yet stands summer heat well. Nice in cloth house but needs cover—rain and dirt collect in the incurved petals. Also very showy as a spray pomp mid-April to mid-November. An extra week of long days improves the spray.

Madonna. A medium large clear white pompon.....
Very attractive if well done. Seems to require ample heat and time to develop properly. At its best mid-May thru September under glass or under cloth August-September. Takes verticillium easily. Pinks at low temperature.

Kolowa. Intermediate single.....

Encore. A snow-white medium large pompon.....
Hard to beat during its season. It's at its best in the cloth house from mid-August thru September—very heavily used at this time. It's excellent from early September up to its normal date under glass. It must have amply warm temperature to set bud. A beautiful white pompon in its season when well grown. Very good production.

White Anemone. Large anemone.....

White Mensa. Large single.....

Rev. Bushnell. Intermediate pompon.....

Moonglow. Intermediate pompon.....

Lolita. (DePetrus—New) Pure white daisy.....
Suitable for sprays. Unusually good form and substance. Good growth habit and production. Medium height. A very good white daisy.

Pacesetter. Pure white in color, good compact pot plant habit.....
Daisies generally aren't much grown in pots, but this one makes such an exceptional showing that we have had good results with it. It's medium large, actually semi-double, fully petalled, and a hard flower with good substance. It buds easily, and does well right around the year.

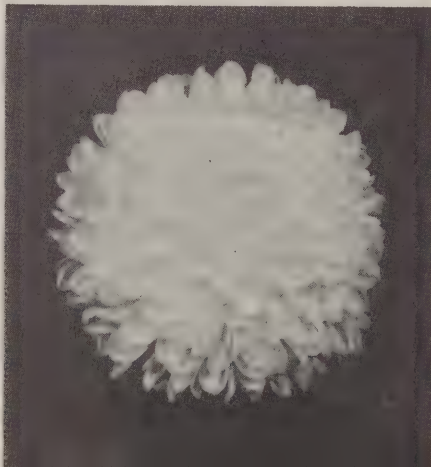
WHITE MEMORIAL

Pure white sport, fine May to November. Nice in late cloth house.



ICEBERG

Very promising new pure white disbud. Good as a disbud year round. Holds size thru summer well.



Normal Flowering Date	Price 50 Only
Nov. 5	\$3.50
Nov. 5	3.00
Nov. 5	4.00
Nov. 5	3.25
Nov. 5	4.00
Nov. 5	3.00
Nov. 5	3.50
Nov. 5	3.50
Nov. 8	3.75
Nov. 8	3.75
Nov. 8	3.50
Nov. 10	3.25

BLIZZARD

New white pomp. Topnotch in the greenhouse May thru September, cloth house July and August.



WHITE POMPONS

10-Week Varieties—Continued

Variety and Description	Normal Flowering Date	Price 50 Only
Illini Igloo. A pleasing white with just a touch of cream..... Igloo started out slowly from its introduction in '53, but as growers get to know it we believe it will be much more used. Flowered in high intensity, it makes a strikingly fine pompon. It's a bit smaller than Gold Coast. Under the right conditions it will set buds promptly, produce heavily, and throw good open sprays. Especially recommended from mid-July till normal date in the greenhouse, and in the early cloth house.	Nov. 10	\$3.25
Shasta. A white anemone with creamy-yellow center..... The fact that Shasta is the leader of all white pompoms in cutting sales is a tip-off to its qualities. It is excellent in the greenhouse from late April thru its normal flowering date. It is equally fine in the cloth house from early August thru early October. Altho not particularly recommended, it will flower satisfactorily thru the winter in the northern greenhouse at 50-55° temperatures and is used that way. It is a prompt bud setter even at marginal temperatures, stands extreme heat very well, but tends to lose its anemone crest. It is susceptible to verticillium. In our experience it is satisfactory for local shipping.	Nov. 10	2.75
Cream Shasta. Beautiful color addition to the Shasta group.....	Nov. 10	3.50
Dynamo. White pompon..... Very high quality cloth house white pompon.	Nov. 10	3.75
Vesper. Intermediate pompon	Nov. 10	3.75
Nagana. Intermediate white single.....	Nov. 10	3.75
California White Mensa. Medium single, cream white.....	Nov. 10	3.75
Little America. A pure white anemone, medium to large..... Altho at its best thru only a rather limited period, it is beautiful—and an outstanding producer. We get best results in the greenhouse from mid-September thru the normal date—it is fine grown normally. It is used in the late cloth house. Nice in pots, it finished especially well in winter. Needs disbudding to bring out quality.	Nov. 10	3.25
Illini Snowdrift. A pure white novelty pompon..... We find it good from early April thru its normal date in November. Best quality comes from May 15 to July 1 and again in September-October. Extreme heat makes it set unevenly and become small flowered. Not particularly recommended for cloth house, but nice in pots, especially in spring. Flowers dye well. Snowdrift is a novelty not to be grown in large quantities, but a very attractive thing. Nice for Christmas on a 12-10 interruption.	Nov. 12	3.25
Matchless. Intermediate pompon.....	Nov. 12	4.00
White Memorial. Pure white sport.....	Nov. 12	3.75

11-Week Varieties—Pinch Aug. 5

White Taffeta. Pure white sport of Taffeta.....	Nov. 15	3.75
Sculpture. A fine large ivory white daisy..... We find it best in May and again from mid-September thru its normal date.	Nov. 15	3.50
White Norma. Large anemone.....	Nov. 15	3.50
Eskimo. Clear white daisy. Fine form and excellent substance.....	Nov. 15	4.00
Snowflurry. A small white button pompon..... Larger than Pinocchio. Very productive.	Nov. 15	3.50
White Freida. Large white anemone..... Good disbudded or sprays.	Nov. 15	3.00
Illini Starflower. Semi-anemone form..... A novelty in white for the retail growers.	Nov. 18	4.00
Seafoam. Intermediate pompon.....	Nov. 20	3.50
Long Island Beauty. Large anemone.....	Nov. 20	3.50
Highbrow. A medium large decorative ivory with deep cream eye..... Very nice in the greenhouse from Sept. 1 thru its normal date. Excellent in the cloth house mid-September thru mid-October. Very good producer.	Nov. 20	3.25
Nevada. Intermediate anemone.....	Nov. 20	3.50
Priscilla. An ivory white formal pompon..... Grown mainly at its normal season.	Nov. 20	3.50
Illini Bountiful. Intermediate decorative.....	Nov. 23	3.75
Crystal Beauty. Intermediate pompon.....	Nov. 23	3.75

WHITE POMPONS

Variety and Description 11-Week Varieties—Continued

Paramount. A medium large creamy white pompon..... We find it freer growing than Priscilla. Very nice thru October-November, and recommended for flowering thru the early winter in the greenhouse. Fair producer, a vigorous grower, and a real formal flower type.	Nov. 23	\$3.25
Belray. A fine, long stemmed pure white pompon..... In the greenhouse it's at its best thru March-April, but must be cooled as it flowers to develop real quality. Very nice again September 15—also at normal date. Under cloth it is much used from about September 25 till late October where it is strikingly fine. A good producer.	Nov. 24	3.00
Carrara. Intermediate pure white decorative..... A short variety that tolerates low temperatures. Easy to grow.	Nov. 24	3.50

12-Week Varieties—Pinch Aug. 10

Silvercrest. Small white formal pompon..... Markedly improves the appearance and quality of Snowcrest. For flowering November thru March.	Nov. 25	3.75
White Lady. White sport of Beautiful Lady.....	Nov. 25	3.50
Illini Peace. A productive white anemone for Thanksgiving.....	Nov. 25	4.00
White Yuletide. Medium pompon, white.....	Nov. 25	3.00
White Valencia. Large single..... Well grown (slowly) and properly disbudded, nothing can be more striking than these Valencias. They're giant showy daisies, reaching 5 to 6 inches, and available this year in seven different colors. They are at their best flowered at their normal season, given at least as much time as prescribed (best if cuttings are planted July 1-10). We have had good success with them between mid-March and May 1 under glass, but again they must not be hurried—best finished cool, and given a good light bench, generous space.	Nov. 28	3.25
Cordova. Intermediate pompon.....	Nov. 30	3.50
Fortune. A formal white pompon..... Outstanding for November and December.	Dec. 1	3.25
Illini Glacier. (Univ. of Ill.—New) Large anemone..... Clear white with white cushion. Durable. Productive. Uniform response. Spray and short disbud crops. October thru December and March thru April. Improves L.I. Beauty in color, form and keeping quality.	Dec. 1	4.00
Monarch. Ivory white large decorative.....	Dec. 1	3.75

13-Week Varieties—Pinch Aug. 15

Cameo. Intermediate decorative.....	Dec. 5	3.50
Acclaim. Medium large formal white with slight cream cast..... A top-notch winter white. It is excellent under glass from December 1 thru March (very best March 1-April 15). Sets buds well even at marginal temperatures, and will flower well even if held to 60° till cut. If given ample time (plant to flower) it will produce well and form good sprays. Fine at normal season.	Dec. 5	3.00
Swan. Large anemone.....	Dec. 5	3.75
Spangles. Small white pompon..... Best described as a late white Sunnyside.	Dec. 5	3.50
Cotillion. Intermediate semi-formal pompon.....	Dec. 5	3.50
White Enchantress. Large white anemone..... Good in sprays or disbudded, very good for extending the season from December thru March, responds sharply.	Dec. 5	4.00
Orway. Large white single..... An improvement over Yukon in flower quality and growth habit.	Dec. 8	4.00
Snowdrop. White button pompon..... Uniform growth and good production.	Dec. 8	3.50
White Snowdrop. Pure white sport of Snowdrop.....	Dec. 8	4.00
Illini Starlet. Intermediate white anemone..... Improves Garza in form, growth and clarity of color.	Dec. 10	3.75
Imp. White Supreme. Large anemone.....	Dec. 10	3.50
Snow Queen. Medium large formal pompon of purest white.....	Dec. 10	3.50
Snowflake. Intermediate, clear white pompon.....	Dec. 10	4.00

Normal Flowering Date	Price 50 Only
Nov. 23	\$3.25
Nov. 24	3.00
Nov. 24	3.50
Nov. 25	3.75
Nov. 25	3.50
Nov. 25	4.00
Nov. 25	3.00
Nov. 28	3.25
Nov. 30	3.50
Dec. 1	3.25
Dec. 1	4.00
Dec. 1	3.75
Dec. 5	3.50
Dec. 5	3.00
Dec. 5	3.75
Dec. 5	3.50
Dec. 5	3.50
Dec. 5	4.00
Dec. 8	4.00
Dec. 8	3.50
Dec. 8	4.00
Dec. 10	3.75
Dec. 10	3.50
Dec. 10	3.50
Dec. 10	4.00

WHITE POMPONS

Variety and Description

13-Week Varieties—Continued

Normal Flowering Date

Price 50 Only

Yukon. Intermediate single.....

Dec. 10

\$3.50

Satellite. Intermediate cream white pompon.....

Dec. 13

3.50

Vigorous Silversmith habit.

Dolomite. (DePetris—New) Intermediate pompon.....

Dec. 13

4.00

Clear white. Smaller, later version of Carrara. Taller, more vigorous. Spray programs mid-November thru December. Adds quality and color clarity to the December season.

14-Week Varieties—Pinch Aug. 23

Trenton. Good form and substance plus production.....

Dec. 15

3.75

An important pompon for natural flowerings.

Snowcrest. Medium small creamy white pompon.....

Dec. 15

3.25

Its reliable bud setting habits have made it important in the greenhouse in the December 1-March 1 period, especially during December. It can be finished well without cooling (held at 60°), nice at normal season.

Cream Snowcrest. Cream colored sport of Snowcrest.....

Dec. 15

3.75

A fine color for winter.

Silversmith. Glistening white large showy decorative.....

Dec. 15

3.00

For the winter greenhouse crop. It is definitely number one among the 13-14 week white pompoms. Properly handled it will bud evenly, and produce close to a bunch to the foot even on the January-February greenhouse crop. It is best flowered between early January and March 1 with peak of quality in early February. Can be finished at straight 60°, but will stall if flowered above 60°. We often find it necessary to remove the center bud to open the spray in winter. Silversmith is also moving into more use for the late normal crop. It's a clearer white than Revelation, and much superior to Snow.

Snowcap. Large formal white pompon.....

Dec. 15

3.25

Much used for the December 1-March 1 crop where it is not possible to drop temperature as the crop flowers. It is an even and reliable bud setter, but a variety that must be given ample time to develop quality and production. Will pink if flowered at low temperatures.

Garza. Intermediate anemone.....

Dec. 15

3.25

White Riviera. (New) Intermediate decorative. Ivory.....

Dec. 15

3.75

Equal in size, form, and vigor to parent variety Riviera. Spray programs December thru February. Does not show pink tinges with low temperature finish.

Heirloom. Intermediate decorative.....

Dec. 20

3.50

Wedding Bells. White formal pompon.....

Dec. 20

4.00

White Kramer. Large decorative pompon.....

Dec. 20

3.75

A west coast variety used very extensively in California. Good shipper and producer.

15-Week Varieties—Pinch Sept. 1

Revelation. A medium large decorative white.....

Dec. 25

3.00

Definitely the number one white for the late December-early January normal crop. Sets buds at relatively low temperatures, and can be held easily for the early January market without lights. Must be kept well below 60° (better at 50°) after color shows or it will stall. Heavy producer. Not recommended for crops to be lighted, since it is hard to get it to set after delaying with lights. Better use Silversmith.

Snow. Medium large pompon for late normal flowering.....

Dec. 25

3.25

Altho still much used, the trend is toward Revelation and Silversmith, mainly because they set buds at somewhat lower temperatures. A very good producer, and definitely attractive if grown warm enough to get good even bud set.

Muto's White. Large white pompon.....

Dec. 25

3.00

Talmeda. Intermediate white pompon.....

Jan. 5

3.50

Improves Revelation. Just about the latest white pompon. Good form and substance.

Illini Cascade. (Univ. of Ill.—New) Large decorative, clear white.....

Jan. 5

4.00

Improves the color, size, vigor, and response of Illini Snowbound. Tall, responsive. Finishes well at high (60°) or low (50°) temperature. Spray programs late December thru February. A valuable addition to the northern winter program.

Illini Snowbound. Large formal white decorative.....

Jan. 5

3.50

Cream center. Must have 60° to set buds.

YELLOW POMPONS

Variety and Description	Normal Flowering Date	Price 50 Only
6-Week Varieties—Pinch July 1		
Golden Hours. Chrome yellow pompon.....	Sept. 8	\$3.25
Yellow Cushion. Light yellow cushion, decorative.....	Sept. 15	3.00
Yel. Chris. Columbus. Excellent garden variety..... Used for spring and fall pot culture. For more details see Chris. Columbus, page ??.	Oct. 1	3.25
Chiquita. Deep lemon, button.....	Oct. 1	3.25
7-Week Varieties—Pinch July 5		
Chas. Nye. Intermediate decorative.....	Oct. 5	3.75
Yel. Avalanche. Light lemon, large decorative.....	Oct. 5	3.25
Yel. Spoon. Intermediate yellow spoon single..... Well suited for garden and pot culture.	Oct. 5	3.75
Bright Forecast. Very formal yellow pompon..... Outstanding flower quality. A variety for cutting.	Oct. 10	3.50
8-Week Varieties—Pinch July 10		
Arlora. Large (3½ in.) incurved yellow..... Here's a top-notch to go with your spring garden mums in pots. It's compact in habit, has pleasing soft yellow color. Also very nice as a fall pot plant, and as a cut disbud.	Oct. 15	3.75
Sundew. Large yellow decorative.....	Oct. 15	4.00
Sarasota. Bright lemon yellow pompon..... Produced on good stems with excellent spray formation; for cutting, either under glass or outside thruout the South, also good in early cloth house.	Oct. 15	5.00
Yellow Irene. Small button pompon, light lemon.....	Oct. 15	3.25
Moondrift. Intermediate cream yellow single..... Excellent growth and production. Recommended for April 15 to June 15 and September 15 to October 20 flowering. Suggested for late cloth house.	Oct. 20	3.75
Rodell Improved. Small pompon, light lemon.....	Oct. 20	3.00
9-Week Varieties—Pinch July 16		
Goldfinch. Small golden yellow button pompon..... Withstands high temperature well.	Oct. 25	3.75
Ordalia. Deep golden yellow, semi-incurved decorative..... 3-3½ in. Excellent keeper. Very vigorous and bushy growth. Blooms in the garden in October. A large pot plant disbud.	Oct. 25	3.75
Starlight. Large yellow daisy..... Recommended April thru October in the greenhouse. Natural or disspray. Makes a fine disbud in pots spring and fall.	Oct. 25	3.50
Golden Herald. A large loosely petalled decorative..... Deep strong yellow color. It performs well from early June thru its normal season, having unusually good performance during very hot weather. Does well in the cloth house thru August and September. A good producer.	Oct. 25	3.25
Gold Coast. Bright yellow formal pompon of medium size..... Gold Coast is the "bread-and-butter" yellow pompon for the greenhouse (May 1-November 1) and for the August-September cloth house. It is used far more than any other variety in the 8 to 10 week group. It sets bud easily, produces well, rates about fair on hot weather performance (flowers stick and it produces too many flowers per spray). It's excellent at its normal season. The three fine new yellows offered this year, Yellow Beauregard, Yellow Igloo and Jealousy will give it hard competition, but we expect it to continue as the number one early yellow pompon for some time.	Oct. 25	3.00
Yellow Dot. Intermediate pompon.....	Oct. 25	3.50
Cream Dot. Sport of Pink Dot..... Intermediate cream yellow pompon, pink eye.	Oct. 25	3.75
Imamura Yellow. Intermediate yellow daisy..... For early cloth house.	Oct. 25	4.00
Yellow Firebird. Medium decorative, deep lemon.....	Oct. 25	3.00
Red Dot. Bright yellow pompon with bronze-red centers..... Sport of Pink Dot. Responds to off-season flowering. Recommended for September thru October cloth house and normal, March thru May in spring.	Oct. 25	3.00

YELLOW POMPONS

Variety and Description

9-Week Varieties—Continued

	Normal Flowering Date	Price 50 Only
Aztec. Intermediate deep yellow daisy..... Three fine new yellow daisies appeared in '54: Aztec, Sauterne, and Honeymoon. All are vigorous growers, fine bold yellow daisies, far ahead of what has been available. In our own experience, Aztec is a bit the best in Spring (April 15 to June 1), is good thru the summer, and tops in the cloth house and fall greenhouse. Honeymoon is the largest flowered and lightest shade of the three; Sauterne is the best under cloth; Aztec is the heaviest producer of the three. All three are excellent.	Oct. 28	\$3.25
Sunup. Small deep yellow pompon..... A little smaller than Gold Coast and larger than Pixie. Harder and more durable than Gold Coast. A good producer which withstands high temperatures and heavy cropping better than Gold Coast. Recommended July thru September. Sharp, uniform response.	Oct. 28	3.25
Yellow Arcadia. Intermediate pompon.....	Oct. 28	3.50
Sauterne. Intermediate intense yellow single..... Very uniform response tolerating a wide temperature range. Improves the production, petallage and quality of Yellow Halo and other existing yellow daisy varieties. Recommended May thru October in the greenhouse, August thru October in the cloth house.	Oct. 30	3.50
Gondola. Intermediate yellow daisy..... Large flower, similar to Starbright. Recommended May thru October in the greenhouse and in the cloth house. Makes a showy (3½ in.) daisy if disbudded.	Oct. 30	3.75
Mary Hall. Fine medium large formal yellow pompon..... It is used considerably for greenhouse flowering mid-May thru its normal season, also in the cloth house. It is larger flowered than Gold Coast and somewhat longer stemmed, but does not set bud as reliably under all conditions. Fine at normal season.	Nov. 1	3.00
Yellow Halo. Sport of Halo. Intermediate single, deep yellow..... Recommended for April 15 thru November 1 greenhouse culture.	Nov. 1	3.50
Schn. Yel. Daisy. Intermediate single.....	Nov. 1	3.50
Yellow Doty. Large pompon.....	Nov. 1	3.75
Starbright. Fine large golden yellow daisy..... We find it does well in the greenhouse, especially from July 1 till its normal date, being a good producer. Excellent under cloth, and also at its normal date.	Nov. 1	3.50
Yellow Daisy. Intermediate single.....	Nov. 1	3.75
Yellow Sea Gull. Intermediate pompon.....	Nov. 1	3.75
Mary Gold. Medium pompon, deep lemon.....	Nov. 1	3.00
Yellow Cassandra. Intermediate pompon.....	Nov. 1	4.00
Calif. Yel. Daisy. Medium single, bright lemon.....	Nov. 1	3.50
Sunray. Attractive yellow anemone..... It's a very reliable bud setter under all conditions, a "sure crop" variety used for cloth house and early greenhouse crop, and for normal flowering.	Nov. 3	3.25
Honeymoon. Large yellow daisy..... Good form and an unusually clear yellow color. Recommended May and June in the greenhouse, and August and September in the cloth house.	Nov. 4	3.50

10-Week Varieties—Pinch July 22

Barcarole. Intermediate pompon.....	Nov. 5	3.25
Brigadoon. Heavily petalled yellow daisy.....	Nov. 5	3.75
Crescendo. A beautiful large lemon yellow pompon..... Outstanding for the high temperature period under glass and cloth. Being quite a tall grower, it can stand to have some time cut from its schedule. Should be watched for height on normal crops where head room is limited—don't plant before mid-July. A good producer, and at its very best in the greenhouse July 15-September 1.	Nov. 5	3.25
Constellation. Intermediate decorative.....	Nov. 5	3.25
Pixie. Small pompon.....	Nov. 5	3.75
Nuggets. Small pompon.....	Nov. 5	3.75
Yellow Beauregard (Yoder—New). Intermediate pompon..... Clear golden yellow at all temperatures—cool or hot. Has same ability to set buds at low temperatures—and heat tolerance—of its parent, Beauregard. Fine from mid-April to mid-November under glass, and in September-early October cloth house. At its best in mid-summer greenhouse crop. Some tendency to clubby sprays at low temperatures. Removal of center bud helps this.	Nov. 5	4.00

YELLOW POMPONS

Variety and Description 10-Week Varieties—Continued

Variety and Description	Normal Flowering Date	Price 50 Only
Golden Mensa. Large single.....	Nov. 5	\$3.75
Luxury. (Yoder—New). Large decorative..... A large attractive golden amber disbud; flowers clear yellow at high temperatures. At its best as a disbud in summer but good from June thru October. Responsive. Nice also as a spray pomp May thru October. Disspray (page 8) procedure helps it. Good in cloth house August to mid-September.	Nov. 8	4.00
Yellow Shasta. Very attractive lemon yellow anemone..... For spring thru normal season in the greenhouse, and for the cloth house. It's one of the top several yellow pompoms. For more details see Shasta, page 19.	Nov. 10	3.00
Calif. Yellow Mensa. Intermediate yellow single.....	Nov. 10	3.75
Jealousy (Yoder—New). Small pompon (see page 4)..... A hard round button type pompon flower size about like Lollipop. Color is an intense yellow with attractive green eye. Jealousy is a dependable bud setter, good producer, and should find a place along with Gold Coast in both greenhouse (early April thru November) and cloth house (August to mid-October). In the midsummer greenhouse it sets up well but the green eye becomes quite pronounced.	Nov. 10	4.00
Yellow Igloo (New). Small pompon..... A fairly deep lemon yellow sport of Illini Igloo. Has same dependable bud setting habits and general reliability. Fine in the greenhouse (early April to mid-November), and under cloth (mid-July to mid-October). Will give Gold Coast competition, especially in summer—early fall under glass. Goes well into May in Florida without black cloth.	Nov. 10	4.00
Illini Gold Cup. Large pompon, buttercup yellow.....	Nov. 10	3.25
Illini Petite. (Univ. of Ill.—New). Small, hard button pompon..... Orange-yellow.	Nov. 10	5.00

11-Week Varieties—Pinch Aug. 5

Yellow Sculpture. Lemon yellow sport of Sculpture.....	Nov. 15	3.75
Princeton. Intermediate decorative.....	Nov. 15	3.75
Thorobred. Large yellow daisy.....	Nov. 15	3.75
Golden Chord. Very showy golden yellow pompon..... It makes an outstanding crop when well done, but in our experience is only at its best for a rather limited period—October 1 thru December in the greenhouse. Needs ample heat to set buds. It's excellent in the cloth house after September 1. Very fine at normal season. Good producer.	Nov. 15	3.25
Forty-Niner. An exceptionally fine, golden yellow pompon..... Medium flower size. It is used extensively in the cloth house from mid-September on, and is good also under glass from October 1-December 1 in our experience. Especially recommended for the late cloth house season. Also needs heat for bud set, but less troublesome than Golden Chord.	Nov. 15	3.00
Gold Ball. (Yoder—New). Intermediate pompon..... Golden yellow. Temperature tolerance improves Golden Chord and Forty-Niner. Hard, durable. Size of Corsair. Outstanding in cloth house mid-August thru mid-October. Spray programs March thru May and September thru mid-November. Valuable supplement to Forty-Niner.	Nov. 15	4.00
Yellow Fellow. Intermediate decorative.....	Nov. 15	3.75
Illini Goldlocks. (Univ. of Ill.—New). Intermediate decorative..... Golden yellow. Tall, vigorous. Requires high light intensity for maximum production. Unsurpassed as a decorative in September-October cloth house. Spray program in October. Short disbud programs for October thru December. Requires 60° F. or less to develop its flower buds.	Nov. 15	4.00
Susanne Miller. Large anemone.....	Nov. 15	3.50
Cheerio (Winkler—New). Intermediate anemone..... Intense golden yellow. Productive. Form has class and quality. Blind tendencies in winter. Spray programs October thru November. Pot programs use tall procedure (see page 77) for same period. Compact. Spreads well.	Nov. 15	4.00
Tacoma. Large golden yellow pompon with very broad petals..... One of the best yellowish bronze pompoms for mid-November.	Nov. 15	4.00
Yellow L. I. Beauty. Large anemone.....	Nov. 20	3.50

YELLOW POMPONS

Variety and Description 11-Week Varieties—Continued

	Normal Flowering Date	Price 50 Only
Yellow Highbrow. Sport of Highbrow..... Intermediate golden yellow pompon, identical in habit with Highbrow. Very useful in late (September 15 and on) cloth house. Recommended greenhouse flowering period October 1 thru December 15.	Nov. 20	\$3.50
Lollipop. A lemon yellow pompon, formal, round and very hard..... Stems quite stiff. Valuable over a long period, and 100% sure bud setter under any reasonable conditions, Lollipop could truly be called a "safe" variety. It is most used in the cloth house from mid-September on, and during the winter in Florida. Also used during the 11-week period under glass—mid-September thru November. Good producer. Very heavily used, especially under cloth. A good hard shipper.	Nov. 20	3.00
Pippin. A medium sized yellow pompon..... Outstanding for heavy production. Does well under glass from mid-March thru April and again in October. Also used some in the cloth house. Actually in order to get best quality, the sprays should be thinned some. Very fine at normal season.	Nov. 20	3.25
Klondike. An orange yellow pompon..... Outstanding in March and April also in late September and October in the cloth house, and November in the greenhouse. A slightly short but very uniform growth habit. Some susceptibility to verticillium.	Nov. 20	3.50
Bojangles. Yellow daisy..... Intense color, heavy petallage.	Nov. 20	3.75
Yellow Nevada. Intermediate anemone.....	Nov. 20	3.75
Illini Sunspot. Large yellow pompon..... Responds well to disbudding. Suggested for late cloth house.	Nov. 20	3.75
Mingo Chief. Bronzy yellow anemone.....	Nov. 20	4.00
Sultan (Yoder—New). Large formal decorative..... Golden yellow to amber at low temperatures. Large Orange Beauregard. Vigorous. Productive. Temperature tolerance of Forty-Niner. Consistent performance at high temperatures. Disbudded spray and short disbud programs March thru November. Cloth house August thru mid-October.	Nov. 22	4.00
Yellow Paramount. Deep yellow sport of Paramount.....	Nov. 23	3.50
Yellow Rolinda. Medium anemone. Buff yellow.....	Nov. 23	3.00
12-Week Varieties—Pinch Aug. 10		
Goldenrod. Full round and solid yellow pompon..... Exceptional substance and keeping qualities.	Nov. 25	3.50
Illini Gold. Intermediate pompon.....	Nov. 25	3.75
Goldsmith. Large decorative.....	Nov. 25	3.25
Highlander. Intermediate decorative..... Better production and freer growth than Goldsmith.	Nov. 25	3.25
Sunnyside. Attractive golden yellow pompon..... Sunnyside is the number one golden yellow pompon for normal flowering for Thanksgiving. It sets evenly, produces quite heavily, is amply long stemmed, and a good strong color.	Nov. 25	3.25
Champagne. Intermediate single.....	Nov. 25	3.75
Illini Wampum. Beautiful, bright yellow anemone..... A good addition to the winter flowering program.	Nov. 25	3.75
Yellow Priscilla. Medium decorative, lemon yellow.....	Nov. 25	3.00
Yellow Valencia. This is a sport of Valencia..... Formerly known as Golden Jane. For more details see White Valencia page 20.	Nov. 28	3.50
Yellow Cordova. Intermediate pompon.....	Nov. 30	3.75
Yellow Fortune. Deep yellow sport.....	Dec. 1	3.75
Omega. Intermediate pompon..... Much used for normal flowering.	Dec. 1	3.25
Gold Medal. Small yellow button pompon.....	Dec. 1	4.00
Yellow Galaxy. Sport of Galaxy..... Deep lemon yellow intermediate single possessing the wide flat petal so attractive in its parent. Useful from October 15 thru the full winter program.	Dec. 1	3.50

YELLOW POMPONS

Variety and Description 13-Week Varieties—Pinch Aug. 15

	Normal Flowering Date	Price 50 Only
Golden Harvest. Small pompon.....	Dec. 5	\$3.75
Brandywine. A deep orange yellow decorative.....	Dec. 5	3.75
Jackpot. Very large golden yellow decorative.....	Dec. 5	3.50
Yellow Acclaim. Good yellow sport from Acclaim.....	Dec. 5	3.50
Golden Acclaim. (Yoder—New). Intermediate pompon.....	Dec. 5	4.00
Golden yellow. Selection from Acclaim. Intensification of Yellow Acclaim. Spray programs mid-November thru mid-March.		
Yellow Cameo. Intermediate decorative.....	Dec. 5	3.50
Yellow Spangles. Deep yellow sport of Spangles.....	Dec. 5	3.75
Cinderella. Intermediate single.....	Dec. 5	3.50
Goldtone. A heavy petalled yellow single.....	Dec. 5	3.75
Yellow Enchantress. Large anemone, lemon yellow.....	Dec. 5	4.00
Yellow Satellite. Yellow sport from Satellite.....	Dec. 10	4.00
Imp. Yel. Supreme. Large anemone.....	Dec. 10	3.50
Goldie. Deep yellow, small pompon.....	Dec. 10	4.00
Challenge. Intermediate single.....	Dec. 12	3.75
Corsair. Fine bold medium large golden yellow pompon.....	Dec. 12	3.00
For winter. It is definitely the number one winter yellow both for normal flowering in December and for the December-March "year round" crop. Corsair will set buds promptly and easily at marginal temperatures, will flower well either held at 60° or if dropped to 55°. It produces well even on somewhat shortened time. If held above 60° after buds show, it will stall badly.		

14-Week Varieties—Pinch Aug. 23

Yellow Riviera. Intermediate decorative.....	Dec. 15	3.75
Yellow Snowcrest. A clear yellow sport.....	Dec. 15	3.50
Yellow Garza. Intermediate anemone.....	Dec. 15	3.50
Sequin. Small yellow pompon.....	Dec. 15	3.75
A late Pixie. Superior to Golden Anniversary.		
Shamrock. Large yellow decorative.....	Dec. 15	3.25
November thru February flowering.		
December Gold. Intermediate decorative.....	Dec. 15	3.50
Sunkist. Intermediate deep golden yellow single.....	Dec. 20	3.75
Vibrant. A loose petalled large, deep golden yellow.....	Dec. 20	3.25
Vibrant is an old-timer, and another "sure-fire" variety. It will set buds at definite marginal temperatures, will produce the most crop with the least care. It's a good producer, a trifle short stemmed, somewhat inclined to clubby sprays in January-February, but can be opened up by removing the center bud.		
Revelry. Intermediate yellow decorative.....	Dec. 20	3.75
Resembles Yellow Revelation with improved flower quality.		
Gold Seal. Intermediate yellow single.....	Dec. 20	3.75
Sunrise. A yellow pompon.....	Dec. 20	3.50
Best described as a late Gold Coast. Sunrise is not sensitive to low night temperatures. A better growth habit than either Yellow Snow or Golden Anniversary.		
Yellow Kramer. Large decorative.....	Dec. 20	3.75
Good shipper, used extensively on the west coast.		
Golden Anniversary. Small pompon.....	Dec. 24	3.50

15-Week Varieties—Pinch Sept. 1

Siren. A yellow decorative.....	Dec. 25	3.25
Smaller than Vibrant but very similar to it and flowers later. Tolerates low night temperatures.		
Yuleflame. Large decorative.....	Dec. 25	3.50
Yellow Snow. Intermediate pompon.....	Dec. 25	3.25
Yellow Revelation. Medium pompon, lemon yellow.....	Dec. 25	3.00
Golden Snowbound (New). Intermediate decorative.....	Jan. 5	4.00
Golden yellow. Color intensification of Illini Yellow Snowbound. Natural flowering. Low temperature finish.		
Ill. Yel. Snowbound. Yellow sport of Snowbound.....	Jan. 5	3.50

PINK POMPONS

Variety and Description	6-Week Varieties—Pinch July 1	Normal Flowering Date	Price 50 Only
Chippewa. Bright purple, large decorative.....		Sept. 15	\$3.25
Alert. Dark purple, large decorative.....		Sept. 20	3.00
Orchid Helen. Small light lavender decorative for the early garden.....		Sept. 25	4.00
Major Cushion. Lavender cushion		Sept. 25	3.25
Spellbound. Intermediate decorative		Oct. 1	3.25
Excellent for spring and fall pot culture. Very pleasing lavender-pink.			
	7-Week Varieties—Pinch July 5		
Joybringer. Salmon rose decorative.....		Oct. 10	3.50
Dwarf, compact and spreading habit. Desirable for borders and pot culture.			
Northern Queen. (DePetris—New) Intermediate decorative.....		Oct. 12	4.00
Pink. Larger flower, more vigor than Petrisian Rose. A superb garden variety of semi-dwarf habit. Very hardy.			
Betty. Intermediate light salmon pink decorative.....		Oct. 14	3.75
	8-Week Varieties—Pinch July 10		
Cupid. (Yoder—New) Small pink decorative.....		Oct. 15	4.00
Unique dahlia form. Prolific. Dwarf, masses and spreads as a garden variety. Disbud with short treatment (see page 77) for May thru early June and late September thru October pot plants.			
Fairland. Intermediate decorative; lively pink color.....		Oct. 15	3.75
A low temperature variety that improves Carolyn Yosick; also a spring and fall pot plant.			
Jewell. Lavender pink. Pompon.....		Oct. 15	3.50
Mayfair. Intermediate, smooth pink single.....		Oct. 15	3.75
Growth and production surpasses that of Reward. Valuable for cut April thru October in the greenhouse, and July thru October in the cloth house.			
Citation. Intermediate pink pompon.....		Oct. 15	3.75
In color and growth it improves Queen of Pinks. A pot plant disbud. Recommended April thru June and again in October. One of the best late garden varieties.			
Ethelda. (New) Intermediate anemone.....		Oct. 15	3.75
Orchid pink. Dwarf. Breaks freely. Responds well. High temperature color retention. Dependable pot plant with short treatment the year around.			
Enterprise. Intermediate amaranth pink pompon.....		Oct. 15	3.75
Excellent substance.			
Elizabeth Hood. Large light orchid pink pompon.....		Oct. 15	3.75
Jester. Intermediate dark orchid pink single.....		Oct. 15	4.00
Very early and vigorous.			
Tsukushi Pink. Intermediate light pink single.....		Oct. 20	4.00
Mirth. Intermediate light pink single.....		Oct. 20	3.50
Larger than Reward. Especially valuable in spring flowering April thru June. Durable and uniform response in July thru October in the cloth house.			
Carolyn Yosick. A medium sized pompon, good pink color.....		Oct. 20	3.50
We find it best under glass from mid-September thru its normal date.			
Mary McArthur. Small pompon.....		Oct. 23	3.75
Capt. Cook. Medium pompon. Deep rose.....		Oct. 23	3.00
Prelude. Intermediate coral pink single.....		Oct. 24	3.75
For April thru June, and mid-September thru October in cloth house and greenhouse.			
	9-Week Varieties—Pinch July 16		
Reveille. (Yoder—New) Small pompon. Nice bright pink.....		Oct. 25	4.00
Extreme low temperature tolerance. Popcorn production. Requires low temperature finish. Shapely, with medium treatment (see page 77) for pots during April thru mid-June and late September thru October. Spray programs same period. Cloth house September thru mid-October.			
Pinkette. Intermediate pink pompon.....		Oct. 25	3.50
For May and June and again in September and October in the greenhouse; also, August thru October in the cloth house.			
Vogue. Large pink single.....		Oct. 25	3.50
Beautiful form and substance; especially valuable June and July. Good in August to September cloth house.			

PINK POMPONS

Variety and Description	9-Week Varieties—Continued	Normal Flowering Date	Price 50 Only
Reward. Very productive early bright pink daisy.....		Oct. 25	\$3.25
Besides holding its color rather well in summer, Reward does not delay seriously or show other ill-effects of heat. Rather short stemmed, but a good reliable producer. Quite nice on normal date, too.			
Pink Dot. Intermediate pompon.....		Oct. 25	3.25
An important variety for cloth house and early shading.			
Jessie. Intermediate pompon		Oct. 25	3.75
Betty Rose. Large anemone.....		Oct. 25	3.75
October Pink. Intermediate single.....		Oct. 25	3.75
Elvira. (DePetris—New) A semi-dwarf pink daisy.....		Oct. 25	4.00
Suitable for growing in sprays. A good color with low growth for growing on those side benches.			
Bluechip. A fine medium large decorative.....		Nov. 1	3.00
"Chip", as it has been tagged by growers, and Portrait, its sister variety, are in our experience among the most worthwhile of all the recent introductions. Bluechip has a strong luminous orchid-pink color. It can't be beat anywhere from mid-March till late fall. It sets easily at marginal temperatures, produces very heavily, is not delayed or impaired by summer heat. The color is quite deep in spring, lightens some in hot weather, but remains a good salable pink. The color photo on page 5 made in July, is about as light as it gets. It's quite striking as a disbud too. Fine for normal season.			
Pink Calif. Daisy. Intermediate single.....		Nov. 1	3.75
Rainbow. Small coral pink single.....		Nov. 1	3.75
Vigorous and productive. Suggested season April to June 15 and September 10 to Nov. 1.			
Ballerina. Intermediate single.....		Nov. 1	3.75
Lillian Doty. Large pompon.....		Nov. 1	3.75
W. H. Buckingham. Intermediate single.....		Nov. 1	3.25
Lotus. Intermediate pink pompon for the shading program.....		Nov. 3	4.00
Tempo. Intermediate deep pink decorative.....		Nov. 3	3.75
The 9-week Masterpiece. Recommended April thru June in the greenhouse, and for the cloth house.			
10-Week Varieties—Pinch July 22			
Parisienne. Shell pink daisy.....		Nov. 5	3.50
Delight. (Yoder—New) Intermediate pink daisy.....		Nov. 5	4.00
Tolerant to high temperature flowering. Productive. Durable. Striking color. Fresh appearance. Spray crops April thru mid-November. Cloth house mid-August thru mid-October.			
Dreamboat. Intermediate pompon.....		Nov. 5	3.75

PORTRAIT

Large pink pompon—well suited for pot plants.

HUMDINGER

Bright, luminous violet-purple. Nice for pots; a good novelty.

ALMEGA

Fine silvery pink pomp for normal season (Thanksgiving) or in the year round crop along with the 11-week kinds.



PINK POMPONS

Variety and Description 10-Week Varieties—Continued

Variety and Description	Normal Flowering Date	Price 50 Only
Onecta. (DePetris—New) Pale pink quilled large flower..... Quills are straight and possess unusual substance. Very strong, semi-dwarf stems and excellent foliage. Suitable for novelty pots.	Nov. 5	\$4.00
Portrait. Large pink pompon. See full description under Bluechip..... Portrait is definitely the shorter grower of the two, hence well suited to pot culture. Some growers report that Portrait does better under low light conditions such as the March flowerings.	Nov. 8	3.00
Dark Bulkeley. Intermediate pompon.....	Nov. 8	3.75
Criterion. A top-notch year round pink pot plant. Medium large decorative.... Flower is about the size of Bonnaffon, and of good form. Color is a good bright shade of pink. It gets away from much of the poor breaking and too upright growth of Queen of the Pinks, as well as its uneven bud set. Flower is definitely larger than Portrait, and it makes a notably better showing in the dark months. Stays reasonably short and bushy. Good the year round. Best results if disbudded. Also an excellent cut flower for spring and fall, especially as a disbud.	Nov. 8	3.25
Bonnie. (Yoder—New) Intermediate pompon..... Very pleasing smooth pink. Temperature tolerance and general appearance much like Illini Igloo—flower some larger. Improved Pinkette form and color. Formal and hard. High temperature color retention is good. Spray crops late April thru mid-November. Cloth house mid-August thru mid-October.	Nov. 10	4.00
Pennant. Medium small deep pink decorative..... A very heavy producing variety. Recommended for April thru normal season in the greenhouse, and August thru October in the cloth house. It does quite well in our experience in the greenhouse, even during severe heat—very little delay, color holds well, and quality remains good.	Nov. 10	3.50
Cover Girl. Light pink anemone with salmon pink cushion..... Compact growth with good production.	Nov. 10	3.75
Nobility. Intermediate light pink single..... A quality daisy. Recommended May, June, October and November in the greenhouse, and August thru October in the cloth house.	Nov. 10	3.75
Dk. Pk. Pandora. (Yoder—New) Intermediate decorative..... Dark pink. Selection from Pandora. Spray and short disbud programs mid-May thru June and September thru mid-November. Cloth house September thru mid-October.	Nov. 10	3.75
Salmon Pandora. (George—New) Intermediate decorative..... Salmon. Selection from Bronze Pandora. Unparalleled color for fall cloth house and greenhouse.	Nov. 10	4.00
Pandora. Large bright luminous pink decorative..... If given ample warm temperature for bud set and flowered in its season, Pandora is hard to beat for both quality and production. We find it excellent flowered between October 1 and its normal date. Very nice under cloth thru late August-September. Must have a full 60° to set bud.	Nov. 10	3.50
Thyra. Intermediate pompon.....	Nov. 10	3.50
Scintillation. (Yoder—New) Intermediate pompon..... Pink. Very vigorous. Superb cloth house variety mid-August thru mid-October. Greenhouse mid-September thru mid-November. Requires 60° bud initiation and better if finished cooler than this.	Nov. 10	4.00
Soprano. Large single.....	Nov. 10	3.75
Linda Lou. Intermediate anemone.....	Nov. 10	3.50
Dk. Linda Lou. Intermediate anemone.....	Nov. 10	3.50
Tuxedo. Large anemone.....	Nov. 10	3.75
Humdinger. A medium large formal pompon..... Bright luminous violet purple. It is quite short growing hence well suited to pot culture. Being a rather poor breaker, one extra cutting per pot is suggested. Fades some at high temperatures. Good where a strong novelty color is wanted.	Nov. 10	3.25
Celebration. (Yoder—New) Intermediate pompon..... Salmon pink with golden bronze overcast. Requires low temperature (max. 55°) finish for uniformity and color retention. Clean, productive habit. New, versatile color. Spray programs April thru June, mid-September thru mid-November. Cloth house September thru mid-October.	Nov. 12	4.00
Masterpiece. Very pleasing soft yet intense pink formal..... The Masterpiece varieties are excellent from mid-March thru mid-May and again from October 1 till normal date under glass. They are also used under cloth later in the season. They are heavy producers, make nice sprays, but colors do fade rapidly in heat. Especially in dark weather, they are better if dropped to 55° as they flower.	Nov. 12	3.25

PINK POMPONS

Variety and Description 10-Week Varieties—Continued

Rose Masterpiece. Intermediate pompon.....	Nov. 12	\$3.50
Salmon Masterpiece. Intermediate pompon.....	Nov. 12	3.75
Anthem. (Yoder—New) Intermediate anemone. Pink.....	Nov. 12	4.00
Production and durability exceed Memorial. Spray programs April thru mid-June and mid-September thru mid-November. Cloth house August thru mid-October.		
Memorial. Intermediate pink anemone. Recommended April thru November..	Nov. 12	3.75
Illini Regal. A deep maroon-violet pompon.....	Nov. 12	4.00
Attractive novelty color.		

11-Week Varieties—Pinch Aug. 5

Taffeta. A soft pink decorative.....	Nov. 15	3.25
Used primarily in the cloth house up North and in Florida. Taffeta and its white sport are very reliable bud setters, good producers, and good shippers. Bluechip will give Taffeta tough competition, especially on color, but variety is always wanted, too!		
Carole. Light pink anemone with salmon pink cushion.....	Nov. 15	4.00
Arbutus. A small shrimp pink pompon particularly useful in cloth house.....	Nov. 15	3.75
Dark Norma. Large anemone.....	Nov. 15	3.50
Orchid Beauty. Intermediate anemone.....	Nov. 15	3.75
Freida. Large anemone, light lavender.....	Nov. 15	3.25
Brocade. Intermediate single.....	Nov. 15	3.50
Illini Springtime. Intermediate pink pompon.....	Nov. 15	4.00
Nice in cloth house.		
Delmar. (DePetris—New) Intermediate pompon.....	Nov. 15	4.00
Almega pink. Vigorous. Productive. Distinctive dot color contrast. Improved Almego habit. Spray crops and short disbuds March thru April; mid-September thru November. Cloth house mid-September thru mid-October.		
Polka. Intermediate pink anemone.....	Nov. 20	4.00
Essentially a pot plant; equally valuable as a spray or disbud. Recommended October thru June.		
Nugano. Intermediate pompon.....	Nov. 20	3.75
A quality flower. One of the most important pink pompoms for this season.		
Grand Slam. Brilliant silvery pink daisy.....	Nov. 20	3.50
Almega. Large light lavender pink pompon.....	Nov. 20	3.25
Form, color and substance excellent. Average production, vigorous but tall growth.		
Vivacious Lady. Spoon type novelty.....	Nov. 20	3.75
Pink L. I. Beauty. Large anemone.....	Nov. 20	3.50
Dk. Pk. L. I. Beauty. An intensified color selection of Pink L. I. Beauty.....	Nov. 20	3.75
Pinky. Intermediate decorative	Nov. 20	3.75
Majorette. A small pink anemone.....	Nov. 20	3.75
Minuet. Intermediate pompon.....	Nov. 23	3.25
Dk. Pink Minuet. A deep sport of Minuet.....	Nov. 23	4.00
Illini Formal. Intermediate rose pink pompon.....	Nov. 23	3.75
Flowers for Thanksgiving. Very novel form that should be popular.		

12-Week Varieties—Pinch Aug. 10

Illini Roseglow. (Univ. of Ill.—New) Intermediate pompon. Pink.....	Nov. 25	4.00
Requires low temperature (maximum 55°) finish. Productive. Best dissprayed. Mid-October thru November. Responsive in March.		
Pink Cloud. Light pink decorative.....	Nov. 25	3.75
Greenish overcast until mature.		
Princess. Small pink pompon.....	Nov. 25	3.50
Hasegawa Pink. Intermediate lavender single.....	Nov. 25	3.75
Beautiful Lady. Large anemone.....	Nov. 25	3.25
Valencia. Large single. See White Valencia, page 20.....	Nov. 28	3.50
Dark Valencia. Large single. See White Valencia, page 20.....	Nov. 28	3.25
Dubonnet Valencia. Dubonnet sport of Valencia.....	Nov. 28	3.75
See White Valencia, page 20.		

PINK POMPONS

Variety and Description 12-Week Varieties—Continued

- Orchid Valencia.** Large single. See White Valencia, page 20.....
- Salmon Valencia.** Large single. See White Valencia, page 20.....
- Heritage.** Medium large formal dark pink pompon.....
Improves the production of Minuet and responds more uniformly and easily than Riviera or Minstrel. We find it a good winter variety, but at its best during March-early April along with Acclaim and Corsair. A rather deep color, but nice flower form and spray. Reliable bud setter.

Normal
Flowering
Date

Price
50 Only

Nov. 28	\$3.75
Nov. 28	3.75
Dec. 1	3.50

13-Week Varieties—Pinch Aug. 15

- Enchantress.** Large anemone.....
- Dark Enchantress.** Large anemone.....
- Argyle.** Small pink pompon.....
Hard flower plus very acceptable pink shade. An outstanding late pink pompon.
- Debutante.** Medium large pink daisy for the winter crop.....
Because of its very pleasing medium pink color, we rely on this one heavily for our December 15-March 1 winter greenhouse crop. Reliable.
- Pink Supreme.** (New) Large anemone. Pink.....
Habit resembles Imp. White Supreme.
- Imp. Dark Supreme.** Large pink anemone.....
- Ruffled Supreme.** Large anemone, lavender. Disbud.....
- Minstrel.** A medium small pompon, a good pink shade.....
We find its best place in December under glass where it is very attractive if given ample heat to set buds evenly. Partial disbudding will make individual flowers larger.
- Dk. Pk. Minstrel.** A clear, clean deep mulberry shade of Minstrel.....
- Lt. Pk. Minstrel.** Shell pink sport of Minstrel.....
- Imp. Pink Minstrel.** An improved Minstrel.....
Its color resembles that of Pink Dot and it does not deteriorate rapidly with maturity. Imp. Pink Minstrel has form, substance and color.

Dec. 5	3.50
Dec. 5	3.50
Dec. 10	3.75
Dec. 10	3.25
Dec. 10	3.75
Dec. 10	3.25
Dec. 10	3.50
Dec. 10	3.25
Dec. 13	3.25
Dec. 13	3.75
Dec. 13	3.50
Dec. 13	3.75

14-Week Varieties—Pinch Aug. 23

- Riviera.** Very attractive luminous pink shades. Decorative pompon.....
Used considerably for the December 1-March 15 winter crop under glass. See notes on Bronze Riviera page 36.
- Dark Riviera.** Medium decorative. Deep lavender.....
- Serrated Riviera.** Saw-tooth petalled sport of Riviera.....
- Coronet.** Intermediate single
- Rosalind.** Intermediate single
- Defiance.** Intermediate decorative.....
- Medallion.** Intermediate pink pompon.....
Similar to Riviera with a superior growth habit. A good pink for flowering November thru February.
- Pk. Treasure Island.** Medium decorative. Light lavender.....
- Rose Medallion.** Rose pink sport of Medallion.....
- Amer. Beauty Kramer.** Rose pink decorative pompon.....
Produced on excellent growth with good stems and foliage. All the Kramer varieties are used in quantity along the west coast, and are good shippers.
- Peach Kramer.** Medium decorative, salmon peach pink.....
- Burgundy Kramer.** Medium decorative burgundy.....
- Shell Pink Kramer.** Medium decorative light pink.....
- Pink Kramer.** Medium decorative rosy lavender.....
- Dark Pink Kramer.** Medium decorative dark lavender pink.....
- Lynda McLane.** A late pink pompon.....
Growth habit that does not run into blind growth and a color that is highly acceptable. A much needed variety for the late natural crop.
- Alvoda.** (DePetris—New) Large decorative.....
Smooth Portrait pink. One of the best for spray programs late November thru February. Free growth. Habit, size and color improve Defiance, Debutante and Riviera. This variety contributes to the 14 week group what Almaga did to the 11 week group in the year round flowering programs. For a 14 week pink to use in a flowering program grow Alvoda.
- Sophilia.** (DePetris—New) Latest small pink pompon.....
Similar to Snowcrest in size and habit. Natural season flowering.

Dec. 15	3.25
Dec. 15	3.00
Dec. 15	3.75
Dec. 15	3.75
Dec. 20	3.50
Dec. 20	3.50
Dec. 20	3.50
Dec. 20	3.00
Dec. 20	3.75
Dec. 20	3.75
Dec. 20	3.75
Dec. 20	3.75
Dec. 25	4.00
Dec. 25	4.00
Dec. 25	4.00
Dec. 25	4.00

BRONZE AND RED POMPONS

Variety and Description	6-Week Varieties—Pinch July 1	Normal Flowering Date	Price 50 Only
Red Glow. Dark red pompon.....		Sept. 20	\$3.75
Champ. Cushion. Deep bronze, cushion, decorative.....		Sept. 25	3.00
Commander Cushion. Red, cushion, decorative.....		Sept. 25	3.00
Mahogany Cushion. Jasper red, cushion, decorative.....		Sept. 25	3.00
W. P. Snyder. Intermediate decorative.....		Oct. 1	3.75
Apricot bronze. Dwarf, compact and prolific. For garden and pot plant culture.			
	7-Week Varieties—Pinch July 5		
Courageous. Dark ruby, large decorative.....		Oct. 5	3.25
Huntsman. Orange bronze decorative.....		Oct. 5	3.75
Red Velvet. Intermediate decorative.....		Oct. 10	3.50
Orangeade. (Yoder—New) Intermediate daisy.....		Oct. 10	4.00
Orange bronze. Vivid color, compact. Prolific garden variety.			
Carmine Queen. Carmine red pompon.....		Oct. 10	3.75
Carnival. Small pompon		Oct. 10	3.75
Mrs. Du Pont. Large decorative.....		Oct. 12	3.75
Color is a warm bronze. Widely known because of Mother's Day pot plant value. Also well suited to gardens.			
	8-Week Varieties—Pinch July 10		
Robinhue. A very double, large red decorative.....		Oct. 15	3.75
Red Ethelda. (New) Intermediate anemone. Coral red.....		Oct. 15	3.75
Dwarf. Compact. Responsive. Spreads well. Best color retention with low temperature finish. Short treatment for pot plants mid-September thru mid-June.			
Radiance. (Yoder—New) Intermediate red decorative.....		Oct. 15	4.00
Breaks freely. Responds uniformly. Non-fading color. Medium procedure (see page 77) for April thru May and mid-September, early October pots. Color brighter, habit more prolific than Red Velvet. Valuable garden variety.			
Calumet. A rawhide bronze pompon.....		Oct. 15	3.75
Similar in color to Mrs. Du Pont but of superior flower quality for cut flower purposes. Very fine for the spring crop in the greenhouse, the earliest cloth house crop, and the garden.			
Rajah. Large scarlet red daisy.....		Oct. 15	3.75
Detroit. Small pompon.....		Oct. 15	4.00
James Stewart. Apricot gold pompon.....		Oct. 15	3.75
Important for early cloth house. Responds with Norona in the early shadings.			
Talisman. Talisman bronze; intermediate daisy.....		Oct. 20	3.75
Color holds exceptionally well at high temperatures.			
Adelaide. Small dark bronze pompon.....		Oct. 20	3.00
Jemima. Large pompon, dark bronze.....		Oct. 20	3.00
Paxon. (DePetris—New) Luminous bronze pompon.....		Oct. 20	3.75
Deeply serrated petals, resembling Illini Snowdrift but larger and fuller with small glossy, finely cut foliage. Blooms October 20. A very good novelty in the 8-week group.			

PRICES FOR MORE THAN 50 OF A VARIETY ON ONE SHIPMENT

Note carefully instructions for ordering on page 8. No orders for less than 50 rooted cuttings of a variety accepted. Minimum total order, 500 cuttings.

50 Only	100-250 Per 100	300-450 Per 100	500-950 Per 100	1000 Up Per 100
\$2.75	\$5.25	\$5.00	\$4.75	\$4.50
3.00	5.75	5.50	5.25	5.00
3.25	6.25	6.00	5.75	5.50
3.50	6.75	6.50	6.25	6.00
3.75	7.25	7.00	6.75	6.50
4.00	7.75	7.50	7.25	7.00
5.00	9.75	9.50	9.25	9.00
6.25	12.25	12.00	11.75	11.50
7.50	14.75	14.50	14.25	14.00

BRONZE AND RED POMPONS

Variety and Description	8-Week Varieties—Continued	Normal Flowering Date	Price 50 Only
Paradise. A striking and unusual deep coral red daisy.....		Oct. 20	\$3.75
At its best April thru June 15, and in early fall in the greenhouse and mid-August on in the cloth house.			
Br. Mary McArthur. Orange bronze sport.....		Oct. 23	3.75
9-Week Varieties—Pinch July 16			
Gaiety. Intermediate coral bronze single.....		Oct. 25	3.50
Firebird. Intermediate decorative.....		Oct. 25	3.75
Bronze Dot. Intermediate pompon. Popular in cloth house.....		Oct. 25	3.25
Buckskin. A tawny bronze daisy.....		Oct. 25	3.50
Easily replaces Calif. Bronze Daisy in the early cloth house, and very attractive at normal date. We also find that in the summer greenhouse crop, Buckskin comes out an excellent yellow daisy.			
Bonton. Medium pompon, rosewood.....		Oct. 25	3.00
October Bronze. Medium single, rosewood.....		Oct. 28	3.00
Sybil. (DePetris—New) Intermediate daisy.....		Oct. 30	4.00
Golden apricot. Productive. Durable. Has petallage and substance. Versatile and brilliant color. Spray programs May thru October. Cloth house August thru mid-October. Quite showy as a disbud. An unusual shade.			
Seneca. Intermediate decorative.....		Nov. 1	3.75
Firefly. An early red pompon that holds its color exceptionally well.....		Nov. 1	3.75
Bronze Daisy. Intermediate single.....		Nov. 1	3.75
Imp. Br. Daisy. Intermediate bronze single.....		Nov. 1	3.75
Growth habit similar to Bronze Daisy. Color is more intense and vivid than original.			
Buccaneer. Rich bronze daisy.....		Nov. 1	3.50
Very little fading even under high temperatures.			
Red Seneca. Intermediate decorative.....		Nov. 1	3.75
Br. Buckingham. Intermediate single.....		Nov. 1	3.75
Navaho. Intermediate pompon.....		Nov. 1	3.75
Red Daisy. Intermediate single.....		Nov. 1	3.75
Imp. Red Daisy. An improved selection.....		Nov. 1	3.50
Flame Glow. Medium single.....		Nov. 1	3.75
Good spray and foliage. Bright golden orange.			
10-Week Varieties—Pinch July 22			
Jetfire. A flaming red, medium large decorative pompon.....		Nov. 5	3.50
This strikingly fine new color is all the more valuable because it is so little affected by hot weather. At its very best as a cut flower in the cloth house or under glass in fall up to normal season. Grown some in pots but tends to be tall. Some susceptibility to verticillium.			
Comanche. Intermediate pompon, reddish bronze.....		Nov. 5	4.00
Orange Beauregard. Medium pompon.....		Nov. 5	3.00
Our notes on Orange Beauregard read: "good yellow in summer, good orange in spring, good bronze in fall". Good easy bud set habits, produces well, stands high summer temperatures exceptionally well. It will crop well anywhere from spring till Thanksgiving.			
Beauregard. An attractive orange-bronze pompon.....		Nov. 5	3.00
Medium sized decorative type flower. It's excellent in the cloth house after September 1, sets buds easily and produces well. We find it very desirable in the fall greenhouse crop—from mid-September thru Thanksgiving, also for spring, but not in summer. Long stemmed.			
Butterscotch. Intermediate pompon.....		Nov. 5	3.50
Cassandra. Intermediate pompon.....		Nov. 5	3.75
Red Rust. Intermediate decorative.....		Nov. 5	3.75
Rubicon. A strong bronze-red decorative pompon.....		Nov. 5	3.25
We find it hard to beat under glass from mid-September till about November 15, after which we switch to Rusticon. It's also very fine under cloth from early September on. Rather on the short stemmed side, but a fine strong color, and a good producer.			
Magician. A large bronze pompon.....		Nov. 5	3.50
About the size of a partially disbudded Masterpiece. Fine in cloth house.			
Bittersweet. Intermediate single.....		Nov. 5	3.50
Gypsy. Small anemone. Grown some in pots at normal season.....		Nov. 8	3.50
Samovar. Intermediate pompon.....		Nov. 10	3.50
Sylvanna. Intermediate single.....		Nov. 10	3.75

BRONZE AND RED POMPONS

Variety and Description 10-Week Varieties—Continued

Variety and Description	Normal Flowering Date	Price 50 Only
Chanticleer. A large reddish bronze pompon.....	Nov. 10	\$3.75
Firegleam. A fiery orange intermediate decorative.....	Nov. 10	3.75
Chevron. An intense red-bronze. Fine in cloth house.....	Nov. 10	3.50
The Titan. Large anemone.....	Nov. 10	3.75
Barbara Fuller. A medium deep coral red anemone.....	Nov. 10	3.75
Dwarf compact growth habit. A pot plant for October, November, and December.		
Bronze Thyra. Intermediate pompon.....	Nov. 10	4.00
Bronze Pandora. A bright coral bronze sport of Pandora.....	Nov. 10	3.75
Climax. (Yoder—New) Intermediate pompon.....	Nov. 10	4.00
Intense orange. Temperature tolerance of Thelma. Improved vigor and production. Vivid color stimulates demand for bronze. Spray crops April thru mid-November. Cloth house August thru mid-October. Holds its warm orange shade remarkably well in hot weather under glass.		
Copperhead. A large coppery bronze decorative.....	Nov. 10	3.25
It is very satisfactory grown as disbudded sprays or disbudded to a single flower. Also grown in pots but tends to be tall.		
Bronze Linda Lou. A color sport of Linda Lou.....	Nov. 10	3.75
Amberhue. (Yoder—New) Intermediate daisy.....	Nov. 10	4.00
Orange-bronze. Improves Buccaneer in growth, form, production and color retention. Green eye. Durable. Spray programs May thru mid-June and mid-September thru October. Cloth house September thru mid-October.		
Bronze Tuxedo. Large anemone.....	Nov. 10	4.00
Gold Braid. A two-tone bronze pompon.....	Nov. 12	4.00
Br. Masterpiece. Intermediate pompon.....	Nov. 12	3.75
Dk. Br. Masterpiece. Dark sport of Br. Masterpiece.....	Nov. 12	3.50
Paragon. A large red decorative pompon.....	Nov. 12	3.50
We find that it produces fine heavy sprays, from mid-October thru Thanksgiving under glass. Also desirable in the cloth house. A fair producer.		
Illini Tangier. Large rusty red bronze decorative.....	Nov. 12	4.00
Color holds well during summer for a bronze.		
Red King. Intermediate red daisy.....	Nov. 13	3.75
Good growth and production; short, compact plant with compound spray. A good red pot plant variety, but tends to be tall.		
Cadet. Intermediate red anemone.....	Nov. 14	3.75
Short, compact and free breaking. Approximate size of Gypsy. Recommended as a spray but useful as a disbud. Season is October thru March.		

11-Week Varieties—Pinch Aug. 5

Mrs. Dewey. A heavy petalled deep bronze single.....	Nov. 15	3.75
For Thanksgiving.		
Shalimar. Lively orange bronze anemone.....	Nov. 15	3.75
Short compact habit well suited to pot plant culture or cut flowers.		
Red Princeton. Intermediate decorative.....	Nov. 15	3.75
Illini Honey. Small honey amber pompon. Good producer, excellent spray....	Nov. 15	3.75
Illini Redhead. Small pompon.....	Nov. 17	3.75
Illini Warrior. Intermediate pompon.....	Nov. 20	3.75
Legal Tender. Intermediate decorative.....	Nov. 20	3.50
Rusticon. Fine, medium large bronze pompon.....	Nov. 20	3.25
For the November greenhouse crop; quite reliable. Also excellent at normal date.		
Thelma. An exceptionally fine warm orange-scarlet pompon.....	Nov. 20	3.25
Does well October thru November in the greenhouse, developing its warm bright color well at that period. Also very fine in the cloth house from mid-September on. Fine at normal season.		
Rubaiyat. Velvety red intermediate formal pompon.....	Nov. 20	3.75
Fine October thru Christmas.		
Bourbon. Intermediate single.....	Nov. 20	3.75

BRONZE AND RED POMPONS

Variety and Description	11-Week Varieties—Continued	Normal Flowering Date	Price 50 Only
Illini War Paint. (Univ. of Ill.—New) Large decorative.....	Smooth maroon red. Heavy, vigorous growth. Restrict to low temperature finish. Versatile as short disbud October thru December; as disbudded spray and pot plant. Use tall procedure (see page 77) for pots during same period. Cloth house mid-September to mid-October. Valuable for Christmas pot plants, but must be delayed to overcome tall habit.	Nov. 22	\$4.00
Olnura. (DePetris—New) Large apricot-bronze anemone.....	Valencia size disbud. Superb color and form. Sharp response. Tall. Vigorous. Productive. Disbudded spray and short disbud programs March thru April and mid-September thru November. An outstanding DePetris achievement of superlative vigor and beauty.	Nov. 22	4.00
Carousel. Intermediate single.....		Nov. 23	3.75
Festival. Intermediate single.....		Nov. 23	3.50
Bronze Minuet. Intermediate pompon.....		Nov. 23	3.50
Dk. Bronze Minuet. A rich deep salmon bronze sport.....		Nov. 23	4.00
Red Rolinda. Intermediate anemone for November and December.....		Nov. 23	3.50
12-Week Varieties—Pinch August 10			
Illini Redwood. Intermediate red pompon.....	Hard, durable, well formed flower. Fine red pompon for Thanksgiving and December.	Nov. 25	3.75
Bronze Goldsmith. Large decorative.....	Very popular for normal season flowering. Does not shade well.	Nov. 25	3.25
Falcon. Intermediate reddish bronze pompon.....		Nov. 25	3.75
Yolanda. Intermediate tawny bronze anemone.....		Nov. 25	3.75
Indian Head. A reddish apricot single.....		Nov. 28	3.50
Apricot Valencia. Large single; warm apricot-salmon shade.....		Nov. 28	3.50
Crimson Valencia. Large crimson single.....	See White Valencia, page 20.	Nov. 28	3.50
Amberina. Bright orange bronze intermediate decorative.....		Dec. 1	3.75
Red Heritage. Salmon red sport from Heritage.....		Dec. 1	4.00
Galaxy. Intermediate single. Orange-scarlet.....		Dec. 1	3.25
Orange Galaxy. Bright golden orange. Free blooming.....		Dec. 1	4.00
13-Week Varieties—Pinch August 15			
Dazzler. Coppery bronze partial anemone.....		Dec. 5	3.75
Bronze Enchantress. Orange bronze sport.....		Dec. 5	3.75
Red Enchantress. A vivid red sport of Enchantress.....	Responds well to off season blooming, and should be very useful from December 5 thru February. Good grown in sprays, but disbudding enhances the color and with proper handling produces a large red at Christmas when reds are needed.	Dec. 5	4.00
Debonair. Large pompon. Crimson red.....		Dec. 5	3.50
Mahogany Viking. Intermediate decorative.....		Dec. 5	3.75
Imp. Br. Supreme. Large anemone.....		Dec. 10	3.75
Red Supreme. Large anemone.....		Dec. 10	3.75
Cavalcade. Mandarin red pompon.....		Dec. 10	4.00

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3.50	6.75	6.50	6.25	6.00
3.75	7.25	7.00	6.75	6.50
4.00	7.75	7.50	7.25	7.00
5.00	9.75	9.50	9.25	9.00
6.25	12.25	12.00	11.75	11.50
7.50	14.75	14.50	14.25	14.00

BRONZE AND RED POMPONS

Variety and Description	13-Week Varieties—Continued	Normal Flowering Date	Price 50 Only
Harlequin. Crimson red intermediate decorative.....		Dec. 10	\$3.75
Holiday. Intermediate single. Crimson red.....		Dec. 10	3.50
Pageantry. A red pompon. Best described as a red Snow.....		Dec. 10	3.75
Christmas Star. Medium sized red daisy for the winter crop.....		Dec. 12	3.25
Good from December 1 to March 1 under glass. Fine for normal date or lighted for Christmas. DDT and other sprays injure the foliage. On the whole we rather prefer Merry-maker.			
Bronze Minstrel. A medium large formal pompon.....		Dec. 13	3.50
Has good bronze color. Like the other Minstrels, it needs a full 60° to set buds, and is good in the greenhouse only from mid-November thru December. Fine for Christmas.			
Dk. Br. Minstrel. Reddish bronze sport.....		Dec. 13	3.50
Red Minstrel. A sport from Bronze Minstrel.....		Dec. 13	3.75
14-Week Varieties—Pinch August 23			
Bronze Riviera. A medium sized decorative; good bronze color.....		Dec. 15	3.50
In areas where winters are quite dark this is definitely the top bronze thru January-February. In areas south of Chicago and New York it often comes uneven in winter. Best results on this winter crop if grown single stem, and if it is cooled as it flowers. All the Rivas are excellent at normal season. Foliage burns easily from sprays. Avoid storage of cuttings for long periods.			
Claret. A brilliant red daisy.....		Dec. 15	3.75
Topaz. Warm, orange bronze single.....		Dec. 15	3.75
Christmas Greetings. A large red decorative.....		Dec. 15	3.25
The one red pompon for Christmas that produces really well. Buds evenly and crops well from early December thru March 1. Color tricky under certain types of artificial light. Very nice flowered normally along with Silversmith.			
Sarong. Intermediate single crimson.....		Dec. 15	3.75
Merry-maker. A medium large red daisy.....		Dec. 20	3.25
In our experience it's the most generally satisfactory one for the December 1-March 1 period under glass.			
Poinsettia. Striking large bright red daisy.....		Dec. 20	3.25
Flowered at normal season (for Christmas) it is beautiful, but must be given ample time and cool temperature at the finish to develop quality and production. Interruption helps on its somewhat sparse natural production. Not adaptable to close year round schedules and higher temperatures, but increasing in popularity for normal bloom.			
Bronze Kramer. Bronze decorative, very good shipper.....		Dec. 20	3.75
Used extensively along the west coast.			
Brick Red Kramer. Brick red decorative pompons.....		Dec. 20	3.75
Produced on stiff stems and good sprays. Used extensively on west coast. Good shipper.			

Special Collections

The collections listed at right are available at the reduced price shown if you leave the choice of varieties up to our propagator. In ordering please specify:

1. Whether you want greenhouse or garden varieties.
2. About when you want them to flower.
3. Colors and flower types you want.
4. Time of shipment.

Our propagator reserves the right to make the choice of varieties. Your order will be filled with good varieties and the cuttings you receive will be properly labeled as to variety. And of course, only

our usual top grade cuttings will be shipped. The reduction in price is made only because our propagator can select varieties that are in good supply at the time you want shipment.

- 1 **Box**, 300 Rooted Cuttings.....\$15.00
- 2 **Boxes**, 600 Rooted Cuttings..... 28.50
- 3 **Boxes**, 900 Rooted Cuttings..... 42.75
- 4 **Boxes or more**, 300 Rooted Cuttings in each box, \$13.50 per box.

Minimum collection is 300 cuttings. Order in multiples of 300.

Garden (HARDY) Varieties

THE BEST in Garden Mum Varieties for Various Purposes

FOR GARDEN USE where short bushy plants with lots of flowers are wanted	FLOWERING PERIOD	WHITE	YELLOW	PINK	BRONZE
	Early Sept.	Paper White Candlelight Osage (Cushion) D. D. Ahrens	Reverence Delight Early Gold Genista	Rosa (Cushion Daisy) Nyes Favorite Joan Helen (Daisy) Amelia Orchid Helen	Early Harvest (Cushion) W. P. Snyder Flamboyant Early Kathleen
	Late Sept.	Powderpuff (Cushion) Chris. Col. White Cloud North Star (Daisy) White Bounty	Yel. Chris. Col. Real Gold Ming Golden Carpet (Cushion)	Coquette (Cushion) Royal Robe Chippewa Alert	Apache Lipstick (Cushion) Chippa Red Rouge Cushion
	Early Oct.	Gardenia Lyric (Daisy) Avalanche Pepita	Chas. Nye Moonlight Arlora Frey Chiquita	Spellbound Maj. Cushion Joyous (Cushion) Mischieff (Daisy)	Comd. Cushion Red Cloud (Cushion) Iron Mountain Mrs. DuPont
FOR CUT FLOWERS	FLOWERING PERIOD	WHITE	YELLOW	PINK	BRONZE
	Early Sept.	Early Sept. varieties too short stemmed and bushy for cut flower use.			
	Late Sept.	White Wonder North Star (Daisy)	Golden Wonder Astoria Lee Powell	Petrisian Rose Malinda Brown Petrisian Pink	Br. Wonder Kath. Lehman Holiday (H)
	Early Oct.	Horizon Limelight Classic	Gold Rush Treasure Sunstone Sarasota	Sonny Northern Queen Mayflower Enterprise Courtier	Firecracker Calumet Carmine Queen James Stewart
FOR SPRING POTS Short growing varieties that will look good in 3, 5, or 6 inch Pots—that will flower together roughly along with Chris. Columbus	FLOWERING PERIOD	WHITE	YELLOW	PINK	BRONZE
	Spring	Chris. Columbus Crystal Maid Lyric (Daisy) Ostosa Marshmallow	Yel. Chris Col. Gold Lode Valiant Ming Pomponette Honeysweet	Spellbound Mischieff (Daisy) Maj. Cushion Joyous Joybringer	Iron Mountain Calumet Lipstick Remembrance W. P. Snyder Caprice

Notes on Use of Garden Varieties

The Garden Varieties are handled a number of ways. Many growers plan to have cuttings arrive early April, pot them to 3's, or plant to Market-Paks, give them a pinch or even two if necessary to produce good, bushy plants for late May sales. Such plants planted outdoors for home garden display (short, bushy plants) should be pinched more or less continuously till late July (August 1 on October varieties).

Cuttings may be planted directly outdoors in late May, pinched as needed up till late July or August 1 as described above. They will of course make some less bushy plants than those started earlier in pots, but they will make a lot of color by fall if kept watered and fed.

Some growers plant cuttings directly to the field even up to mid-June—again with good results if they are kept watered and fed.

For straight cut flower production, cuttings should be planted outdoors as soon as frost danger is past (around June 1), pinched once only several weeks after planting (late June). Some growers thin to three or even two stems per plant. Never more than one pinch where long stemmed cut flowers are wanted!

The Garden Varieties can be flowered in spring in 3 inch or in larger pots. Such plants can be enjoyed as a flowering plant in the spring, then can be planted out to the garden for a fall flowering. See page 76 for details.

Garden (HARDY) Varieties

For additional Garden Varieties, see general list beginning on page 9. Generally varieties which flower on or before October 15 are suitable for garden use.

P—Varieties suitable for pots

D—Better when disbudded

WHITE GARDEN VARIETIES			
Variety	Height	Flowering Date	Price 50 Only
Osage. Cushion, decorative, border, white.....	Short	Sept. 5	\$5.00
Candlelight. Decorative, secondary border, ivory white.....	Med.	Sept. 5	3.00
D. D. Ahrens. Decorative, background, white.....	Tall	Sept. 10	3.00
Paper White. Decorative, secondary border, white.....	Med.	Sept. 10	3.50
P Crystal Maid. Cream decorative pompon..... Low growing plant that is well suited for borders. Responds well to spring pot plant culture. Also very good for 3" pot blooming.	Short	Sept. 12	6.25
White Cushion. Cushion, border..... White showing traces of pink in buds. Blooms later the first year.	Short	Sept. 15	3.00
Gloria (DePetris—New). Medium sized decorative pompon..... Very free flowering. Flowers are larger and more durable than Chris. Columbus. Good growth habits and foliage.	Med.	Sept. 15	7.50
P Calcite. Cream white decorative..... Responds to off season blooming. Good spring garden pot plant.	Med.	Sept. 15	3.00
P Martens White. Large decorative, secondary border, white.....	Med.	Sept. 15	3.75
Powderpuff. Cushion, border, white.....	Short	Sept. 15	3.50
Polar Ice. Decorative and secondary border, white.....	Med.	Sept. 15	3.50
P White Bounty. Cream white button pompon..... Responds to off season blooming. Good spring garden pot plant.	Tall	Sept. 15	3.25
D White Tower. Large pompon, secondary border and cut, cream white.	Tall	Sept. 15	3.25
P Snowspoon. Large Shasta daisy-like flowers with long tubular petals.	Med.	Sept. 18	6.25
Benora (DePetris—New). Dwarf cushion type..... Excellent stems and foliage. Large 3 inch white flowers on well shaped plants.	Short	Sept. 20	7.50
P White Wonder. Large pompon, secondary border and cut. Ivory white.	Med.	Sept. 25	3.75
P Shalimar (H). Large white decorative..... Flowers produced on medium height growth. Good Mother's Day and later pot. Better disbudded.	Med.	Sept. 25	3.50
White Rice. Large pompon, border and pots, white.....	Short	Sept. 25	3.50
P Ostosa. Large white low growing..... Responds to off-season blooming. A good addition to the spring garden pots.	Short	Sept. 25	3.75
North Star. Single, background and cut flower, white.....	Med.	Sept. 28	3.50
P Pepita. Small button pompon. Good spring pot plant variety.....	Med.	Sept. 28	3.50
P Chris Columbus. Large decorative pompon..... Cream white. Responds to off season blooming and is the top white garden variety for spring pot blooming. Also tops for 3 inch pot blooming.	Tall	Oct. 1	3.25
Spindrift. Decorative, secondary border, white.....	Med.	Oct. 1	4.00
Snow Fall. Decorative, secondary border, white.....	Med.	Oct. 1	3.50
Ermine. Decorative, secondary border, ivory white.....	Med.	Oct. 1	3.50
P Marshmallow. Medium with waxy petals..... Very good low growing garden variety, excellent for spring pots.	Med.	Oct. 5	3.75
Limelight. Decorative, background and cut, white.....	Med.	Oct. 5	3.75
P Lyric. Small single..... Good substance in petals. Very attractive as spring pot plant. Very good also as 3 inch pot plant.	Short	Oct. 5	3.75
Avalanche. Large decorative, secondary border, cream white.....	Tall	Oct. 5	3.75
P Horizon. Medium decorative pompon..... Good sprays with excellent stems and foliage. Exceptionally good as early cut flower under glass or in the garden. Responds very well for off-season flowering in the spring, either as cut or pot plant.	Med.	Oct. 5	3.50

WHITE GARDEN (Hardy) VARIETIES

Variety	Height	Flowering Date	Price 50 Only
You'dath's White. Large decorative, secondary border, white.....	Med.	Oct. 5	\$3.00
Ivory Glow. Large disbud, ivory.....	Med.	Oct. 5	3.00
White Cloud. Decorative, secondary border, white.....	Tall	Oct. 5	3.75
Gardenia. Large white decorative..... Flowers are very double and large, 3½ inches in diameter if disbudded. A very profuse bloomer combining extreme vigor and strong stems with excellent foliage on a semi-dwarf plant. Also used as a greenhouse pot plant. An outstanding variety.	Med.	Oct. 8	4.00
P Classic. Pure white pompon..... Used as cut flower under glass or in the garden. Not as good for this purpose as Horizon, but acceptable.	Tall	Oct. 10	3.75
P Maestro. Medium cream pompon..... Produced on very low growing plants. Responds to off-season blooming. Recommended as spring garden pots.	Short	Oct. 10	3.75
White Spoon. Spoon, secondary border, white.....	Med.	Oct. 10	3.50
P Silverplate. Medium decorative, pure white..... Responds well for spring pot sales.	Med.	Oct. 12	3.50
Silver Ball. Large pompon, background or cut, white.....	Tall	Oct. 15	3.00
Irene. Small secondary border, or cut, white.....	Med.	Oct. 15	4.00
Norona. Small pompon, background or cut, white.....	Med.	Oct. 15	3.25

YELLOW

Pathfinder. Decorative, serrated petals, deep lemon.....	Med.	Aug. 28	5.00
Reverence. Large decorative border, chamois yellow.....	Short	Sept. 1	6.25
P Early Gold. Medium pompon..... Low growing, responds very sharply to off-season blooming. Sometimes considered too short.	Short	Sept. 5	3.75
Golden Hours. Pompons, secondary border, chrome yellow.....	Med.	Sept. 8	3.25
Delight. Medium pompon, secondary border, golden.....	Med.	Sept. 12	3.75
Genista. Decorative, secondary border, canary yellow.....	Med.	Sept. 12	4.00
Yel. Supreme (H). Cushion, border, bright lemon.....	Short	Sept. 15	3.00
Sunapee. Pompon, secondary border, deep lemon.....	Tall	Sept. 15	3.50
P Pomponette. Medium sized orange pompon..... Low growing. Responds for off-season blooming. Good spring garden pot plant.	Short	Sept. 15	3.25
Yel. Cushion. Cushion, decorative, border, light yellow.....	Short	Sept. 15	3.00
Golden Cushion. Cushion, border, golden yellow.....	Short	Sept. 15	3.00
Defiance (H). Decorative, secondary border, golden yellow.....	Tall	Sept. 15	3.50
Muriel Rice. Large decorative, secondary border light lemon.....	Med.	Sept. 15	7.50
P Early Yellow. Small button, secondary border, deep lemon.....	Short	Sept. 15	3.00
Golden Carpet. Cushion, border, golden.....	Short	Sept. 15	3.50
Golden Gopher. Decorative and secondary border, orange yellow....	Med.	Sept. 20	3.50
P Sept. Sunshine. Medium single..... Very prolific with blooms. Responds well for spring pot plants. Very showy, bright lemon.	Med.	Sept. 20	3.25
P Aglow. Orange yellow pompon..... Responds well as spring garden pot plant.	Med.	Sept. 20	5.00
Real Gold. Large decorative, secondary border, deep golden.....	Med.	Sept. 20	7.50
Wychwood. Large pompon, secondary border, canary.....	Med.	Sept. 20	3.25
Canary Wonder. Large pompon, canary yellow.....	Med.	Sept. 25	3.25
Golden Wonder. Large pompon, secondary border and cut, golden.	Med.	Sept. 25	4.00
Sept. Gold. Cushion, border, lemon.....	Short	Sept. 25	3.50
Golden Sunset. Large decorative, background, copper gold.....	Med.	Sept. 25	3.50
Spellbinder. Large decorative, bright yellow.....	Med.	Sept. 25	7.50
Sulphur Spoon. Spoon, secondary border, light yellow.....	Med.	Sept. 25	4.00
Tangerine. Large decorative, secondary border, deep orange.....	Med.	Sept. 25	3.25
Astoria (DePetris—New). A very free flowering deep lemon pompon.	Med.	Sept. 28	7.50
Flaxen Beauty. Large decorative, pale lemon yellow.....	Med.	Oct. 1	3.75

YELLOW GARDEN (Hardy) VARIETIES

Variety	Height	Flowering Date	Price 50 Only
Freja (DePetris—New). Very large deep golden yellow..... 4 inch blooms, produced on medium upright growth with excellent stems and foliage. Good flower placement.	Med.	Oct. 1	\$7.50
Tranquility . Decorative, secondary border, light lemon yellow.....	Med.	Oct. 1	6.25
P Chiquita . Small button, deep lemon..... Responds well for spring garden pot plants.	Med.	Oct. 1	3.25
Moonbeams . Pompon, secondary border and cut, pale lemon.....	Med.	Oct. 1	3.75
PD Ming . Medium large pompon, golden orange yellow..... Responds well for spring pot plants.	Med.	Oct. 1	4.00
P Honeycomb . Honey yellow pompon, good form..... Responds well for spring garden pot plants.	Med.	Oct. 1	3.75
P Moonlight (DePetris). Large bright yellow decorative pompon..... Responds well for spring garden pots.	Med.	Oct. 1	3.75
P Yel. Chris. Columbus . Medium large, bright lemon decorative..... Responds sharply to off-season blooming. By far the best of all the yellows for spring garden pots. Either as 6 inch or 3 inch pots.	Med.	Oct. 1	3.25
Dwight Douglas . Large decorative cut flower variety.....	—	Oct. 5	4.00
Ethel Waters . Large incurved, disbud, light lemon sport of Ivory Glow.	Med.	Oct. 5	4.00
James Eadie . Large pompon, secondary border, deep chrome.....	Med.	Oct. 5	3.25
Yel. Avalanche . Large decorative, background, light lemon.....	Tall	Oct. 5	3.25
P Garland . Small lemon yellow single..... Responds well for spring garden pot plants.	Short	Oct. 5	3.50
Polaris . Single, secondary border, golden buff.....	Med.	Oct. 5	4.00
PD Mrs. Rotan . Large decorative, deep chrome.....	Med.	Oct. 5	3.25
Charles Nye . Large pompon, secondary border, deep lemon.....	Tall	Oct. 5	3.75
P Yel. Spoon . Light yellow spoon type flowers..... Very artistic, responds well at Mother's Day and later as spring pot plant. Very novel.	Med.	Oct. 5	3.75
Sunstone . Spoon, novelty, background or cascade, light yellow.....	Tall	Oct. 8	3.75
P Spode . Large, bright lemon incurved..... Short growing garden variety suitable for growing as disbud. Responds well for spring pot plants.	Short	Oct. 8	6.25
Treasure . Golden yellow pompons..... Good stems and sprays for cut. Excellent for normal blooming under glass or outside blooming throughout the South.	Tall	Oct. 10	3.75
Golden Spoon . Spoon, secondary border, golden yellow.....	Med.	Oct. 10	3.50
P Yel. Blanket . Small yellow button..... Responds for spring garden pot plants.	Med.	Oct. 10	3.25
Bright Forecast . Bright lemon pompon.....	Tall	Oct. 10	3.50
Goldrush . Medium single, lemon yellow..... Responds to off-season blooming. Excellent cut flower under glass or in the garden. Responds well as spring garden pot plant.	Med.	Oct. 10	3.75
Lee Powell . Large decorative, background and cut, Chinese yellow....	Tall	Oct. 10	3.75
Sweepstake . Pompon, second border, buff lemon.....	Med.	Oct. 12	3.75
Michigan (DePetris—New). Large clear yellow..... Blooms fully 4 inches and larger across, produced on beautiful vigorous plants with rigid stems. Should be disbudded and supported due to size of bloom. Good outside cut flower when protected from frost.	Med.	Oct. 12	7.50
P Lemonade . Pale ivory yellow..... Used by some as spring pot plant. Responds well, but color is very light. We find Yel. Chris. Col. by far the best variety.	Med.	Oct. 12	3.75
Sunburst (DePetris—New). Large golden yellow cactus type..... Blooms 4 inches and larger when disbudded. Produced on vigorous plants with excellent foliage and stems. Should be supported since heavy rains and wind will blow the large blooms over.	Med.	Oct. 12	7.50
Carioca (DePetris—New). Large decorative type, golden yellow.... Another large flowered addition to the late garden varieties. Should be disbudded. Blooms are fully 4 inches across. Flowers are produced on good stems and foliage.	Med.	Oct. 12	7.50

YELLOW GARDEN (Hardy) VARIETIES

Variety	Height	Flowering Date	Price 50 Only
P Gold Lode. Medium reflexed, bright yellow..... Early enough for garden use around Toledo and farther South. Responds excellently for spring garden pot plants. Either disbud or spray.	Med.	Oct. 15	\$3.50
Judith Anderson. Button, border, bright lemon.....	Med.	Oct. 15	3.25
Rodell Improved. Button, background plantings, and cut flower. Light lemon.	Med.	Oct. 15	3.00
Yel. Irene. Small button, background plantings and cut flowers. Light lemon.	Med.	Oct. 15	3.25
Buttercup (H). Large incurved, background and cut, golden.....	Short	Oct. 15	5.00
Sundew. Large incurved, disbud, background and cut, golden.....	Med.	Oct. 15	4.00
P Valiant. Another large incurved, light golden Mum..... Early enough for garden use. Responds well for spring pot plants. Should be disbudded.	Med.	Oct. 15	6.25
P Honeysweet. Large incurved, golden yellow..... Early enough for garden use and responds excellently for spring pot plants. Should be disbudded.	Med.	Oct. 15	6.25
Sarasota. Medium pompon, bright lemon..... Excellent cut flower variety for under glass, or the early cloth house.	Med.	Oct. 15	5.00
Golden Cheer. Pompon, background, bright lemon.....	Tall	Oct. 15	3.75
Arlora. Fully double, bright lemon..... Beautiful large perfect shaped blooms well spaced on very rigid stems from well branched plants with bright green foliage. An excellent specimen plant.	Med.	Oct. 15	3.75

PINK AND LAVENDER

Gladness. Decorative pompon, border, China rose.....	Short	Aug. 28	3.75
Cecil Beed. Decorative, secondary border, deep lavender.....	Med.	Sept. 1	3.75
Dr. Longley. Decorative border, rose pink.....	Med.	Sept. 1	4.00
Salmon Precose. Large decorative border, salmon pink.....	Short	Sept. 1	3.50
Amelia. Cushion, border, lavender pink.....	Short	Sept. 5	3.25
Rosa. Cushion, border, rose pink.....	Med.	Sept. 5	5.00
Dean Kay. Cushion, border shell pink.....	Short	Sept. 5	3.25
Purple Star. Decorative pompon, secondary border, brilliant purple	Med.	Sept. 5	3.25
P Joan Helen. Dark purple shading to crimson..... Responds for spring pot plants very readily; makes a beautiful plant. Color is good.	Med.	Sept. 10	3.25
PD Nye's Favorite. Large shaggy decorative lavender..... Responds for spring pot plants.	Med.	Sept. 10	3.50
Barbara Small. Pompon, secondary border and cut, lavender.....	Tall	Sept. 10	3.25
Successor. Decorative, secondary border, silver lavender.....	Med.	Sept. 10	3.75
Lorenzo. Quilled, secondary border, dark purple.....	Med.	Sept. 15	3.50
Royal Robe. Decorative, secondary border dark purple.....	Med.	Sept. 15	4.00
Chippewa. Decorative, secondary border and cut, bright purple.....	Med.	Sept. 15	3.25
Violet. Decorative, bright purple.....	Med.	Sept. 15	3.50
Fairbow. Pompon, secondary border, lavender pink.....	Med.	Sept. 20	3.50
Tapestry. Decorative, secondary border, salmon pink.....	Med.	Sept. 20	3.50
Heather Bloom. Decorative, secondary border, heather pink.....	Med.	Sept. 20	3.25
P Alert. Large dark purple decorative pompon..... Produced on beautifully shaped plants either as 6 inch or 3 inch plants.	Med.	Sept. 20	3.00
Olive Longland. Decorative, secondary border, apricot salmon pink..	Med.	Sept. 25	3.00
Evangeline. Large decorative, secondary border, flesh pink.....	Med.	Sept. 25	4.00
Jewelltone. Pompon, secondary border or pots, rose pink.....	Short	Sept. 25	7.50

PINK AND LAVENDER GARDEN (Hardy) VARIETIES

Variety	Height	Flowering Date	Price 50 Only
Lady's Choice. Large decorative, secondary border or pots, ivory pink	Med.	Sept. 25	\$7.50
Reflection. Decorative, secondary border, rosy lavender.....	Med.	Sept. 25	7.50
P Cecelia. Medium decorative purple..... Flowers produced in abundance on beautifully shaped plants. Responds well as spring pot plant.	Short	Sept. 25	3.50
Imp. E. Wonder. Pompon, secondary border and cut, lavender pink	Med.	Sept. 25	3.50
Capt. J. Smith. Cushion, border plant, lavender pink.....	Short	Sept. 25	3.00
P Major Cushion. Small decorative lavender pompon..... Produced on a well rounded plant. Responds for spring pot plant either as a 6 inch or 3 inch pot Mum. Temperature should be 60° or better.	Short	Sept. 25	3.25
Coquette. Cushion border, rosy pink.....	Short	Sept. 25	6.25
P Orchid Helen. Medium decorative, orchid lavender..... Responds for spring garden pot plants.	Med.	Sept. 25	4.00
Rosita. Button, secondary border, light lavender rose.....	Med.	Sept. 28	3.25
Joyous. Cushion decorative, border, lavender rosy pink.....	Short	Sept. 28	7.50
Malinda Brown. Pompon, secondary border and cut, lavender rose....	Med.	Sept. 28	3.75
Twinkle. Cushion, border, deep rose purple.....	Med.	Sept. 28	4.00
Misty Maid. Decorative, secondary border, light pink.....	Med.	Sept. 28	3.50
Pat Lehman. Decorative, peach pink.....	Tall	Sept. 28	3.50
Aristocrat (H). Large decorative, secondary border, deep wine.....	Med.	Sept. 28	6.25
Early Wonder. Intermediate pompon.....	Med.	Oct. 1	3.75
Fascination. Large decorative, secondary border, lavender pink.....	Med.	Oct. 1	4.00
PD Myrtle Walgreen. Large pompon, amaranth purple..... Responds for spring pot plants.	Med.	Oct. 1	3.50
Troubadour. Bright rosy crimson large blooms 3 inches across.....	Med.	Oct. 1	3.50
Tiffany Rose. Medium large deep rose single..... Very prolific bloomer, responds well for spring pot plants.	Med.	Oct. 1	3.25
Old Lavender. Large decorative, background, bright lavender.....	Med.	Oct. 1	6.25
Sonny. Small salmon pink pompon..... Excellent cut flower either under glass or in the garden. Also responds good in the cloth house shadings.	Med.	Oct. 1	4.00
Mayflower (DePetris—New). Very hard solid pompons..... Soft luminous pink. Flowers are borne atop perfect sprays and rigid stems. Excellent early cut flower.	Med.	Oct. 1	7.50
P Mischief. Small purple daisies with prominent yellow centers..... Produced in abundance on sturdy well rounded plants. Responds very uniformly to off-season blooming. Makes a wonderful 6 inch or 3 inch plant for spring blooming. Cannot be used in the same proportions as white and yellow, but a very desirable spring pot plant.	Short	Oct. 1	5.00
Charm Spoon. Spoon, secondary border, rhodonite rose.....	Med.	Oct. 1	3.75
P Spellbound. Medium decorative, brilliant lavender pompon..... Responds beautifully to spring bloomings as pot plants.	Med.	Oct. 1	3.25
Alex Cummings. Decorative, disbud and background, deep rose pink	Tall	Oct. 3	4.00
Northern Queen. Large rose pink decorative with a dark center..... Good cut under glass or in the garden.	Med.	Oct. 5	4.00
P Petrisian Mauve. Decorative, background, raspberry mauve.....	Med.	Oct. 5	4.00
P Petrisian Pink. Decorative, background and cut, light pink.....	Med.	Oct. 5	4.00
P Petrisian Rose. Medium pompon, lavender rose in color..... Very versatile, ideal as a garden cut flower. Good under glass as an early cut flower and responds either as a cut flower or spring pot plant very well.	Med.	Oct. 5	4.00
Sweetheart. Light lavender-pink daisy.....	—	Oct. 10	4.00
Corona (H). Single, background and cut, deep lavender.....	Tall	Oct. 10	4.00
Ponca. Small decorative, border and background, dark lavender.....	Short	Oct. 10	3.50
Dream Girl. Pompon, background and cut, light lavender.....	Med.	Oct. 10	4.00

PINK AND LAVENDER GARDEN (Hardy) VARIETIES

Variety	Height	Flowering Date	Price 50 Only
P Courtier. Medium decorative, lavender pink pompon..... Good as garden cut flowers and responds well for spring pots.	Med.	Oct. 10	\$4.00
P Time. Large deep lavender rose pompon..... Produced on strong stems. Good specimen plant in the garden when disbudded. Also responds for spring pot plants.	Med.	Oct. 10	3.50
P Orchid Spoon. Orchid lavender spoon..... Responds for Mother's Day and later as a pot plant, novelty.	Med.	Oct. 10	3.75
Rose Spoon. Spoon, secondary border, lavender rose pink.....	Med.	Oct. 10	3.50
Lassie. Large decorative, background and cut, deep pink.....	Med.	Oct. 10	3.75
P Masquerade. Lavender pink button pompons with dark rose center. Responds well for spring pot plants.	Med.	Oct. 10	3.75
P Joybringer. Low branching decorative pompon..... Lavender rose overlaid with salmon. Ideally suited for spring pot plants. Responds well and makes a beautifully shaped plant. Color could be a little more desirable.	Short	Oct. 10	3.50
Ronnie. Button, background and cut, dark lavender.....	Med.	Oct. 12	4.00
Allegro. Cushion type, shrimp pink.....	Med.	Oct. 12	4.00
Adagio. Pompon, background, raspberry rose.....	Tall	Oct. 12	3.50
P Lavender Lady. Lavender decorative pompon..... Produced on a rather tall spreading growth. Responds well for spring pots.	Tall	Oct. 12	4.00
Betty. Decorative, background and cut, pink rose center.....	Tall	Oct. 14	3.75
P Jewell. Lavender pink button pompon..... This needs very little introduction; an old-timer that is very versatile for either cut flowers under glass or in the garden and early cloth house. Responds as spring pot.	Med.	Oct. 15	3.50
Sonnet. Decorative pompon, background and cut, salmon pink.....	Med.	Oct. 15	4.00
Enterprise. Medium pompon, amaranth rose..... Produced on well formed and good stems. Exceptionally good as early fall cut flower under glass or in the garden when the weather permits. Also responds well in the early cloth house.	Tall	Oct. 15	3.75
Elizabeth Hood. Large decorative, light lavender rose..... Produced on good stems and sprays. Good cut flower under glass or in the outside garden where weather permits.	Med.	Oct. 15	3.75
Citation. Large pompon, deep lavender pink..... Responds well as spring pot plant.	Med.	Oct. 15	3.75

BRONZE AND RED

Harvest Bronze. Decorative, border, apricot bronze.....	Short	Aug. 20	4.00
Glow Worm. Semi-double cushion, border, orange scarlet.....	Short	Sept. 8	3.75
Early Harvest. Cushion, border mahogany orange.....	Short	Sept. 8	3.75
Harbinger. Large decorative, border, golden bronze.....	Short	Sept. 8	3.75
Autumn Song. Decorative, secondary border, wine rose.....	Med.	Sept. 10	3.25
Geo. Luxton. Large decorative, secondary border, light bronze.....	Med.	Sept. 12	6.25
Autumn Tide. Decorative, secondary border plantings, coral salmon.	Med.	Sept. 15	3.25
Br. Pomponette. Pompon, border, golden bronze.....	Short	Sept. 15	5.00
Early Crimson. Decorative, secondary border, bright crimson.....	Med.	Sept. 15	4.00
Apache. Large decorative, secondary border, red and gold.....	Med.	Sept. 15	5.00
Early Bronze. Button, border, orange bronze.....	Short	Sept. 15	3.00
Red Gold. Button, border, red and gold.....	Med.	Sept. 15	3.50
New Marj. Mills. Large pompon, border, ruby red.....	Short	Sept. 15	7.50
Chippa Red. Large decorative, secondary border, and cut, maroon red	Med.	Sept. 15	7.50
Flamboyant. Decorative flaming orange bronze.....	Med.	Sept. 15	6.25
Early Kathleen. Decorative, secondary border, coppery bronze.....	Med.	Sept. 15	5.00

BRONZE AND RED GARDEN (Hardy) VARIETIES

Variety	Height	Flowering Date	Price 50 Only
Autumn Beauty. Decorative, secondary border, chestnut red.....	Med.	Sept. 15	\$4.00
Sept. Bronze. Button, secondary border, golden bronze.....	Med.	Sept. 20	3.00
Toronto (DePetris—New). Cushion, border, bronze.....	Short	Sept. 20	7.50
Goblin. Small pompon, secondary border, golden bronze.....	Tall	Sept. 20	3.50
Red Glow. Small pompon, secondary border, dark red.....	Med.	Sept. 20	3.75
Scarlet Crimson. Decorative, secondary border, bright red.....	Med.	Sept. 20	3.25
Rouge Cushion. Cushion, border, bright red.....	Short	Sept. 25	3.75
Br. Wonder. Pompon, secondary border and cut, rosewood bronze....	Med.	Sept. 25	3.50
Plainsman. Decorative, secondary border, orange bronze.....	Med.	Sept. 25	5.00
Crown Jewell. Decorative, secondary border, bright red.....	Short	Sept. 25	3.50
Champ. Cushion. Cushion, border, deep bronze.....	Short	Sept. 25	3.00
Comd. Cushion. Cushion, border, red	Short	Sept. 25	3.00
Alpena. Decorative, secondary border, dark red.....	Med.	Sept. 25	6.25
Mahogany Cushion. Cushion, border, jasper red.....	Short	Sept. 25	3.00
Elite Cushion. Cushion, border, salmon bronze.....	Short	Sept. 25	3.50
Marionette. Pompon, secondary border, rust red.....	Med.	Sept. 25	3.75
Holiday (H). Large decorative, golden bronze.....	Med.	Sept. 25	3.50
Orloma. Decorative, cushion border, apricot bronze.....	Med.	Sept. 25	4.00
P Orsona. Reddish bronze pompon, responds well for spring garden pots	Med.	Sept. 25	4.00
Lipstick. Cushion, border, ruby orange.....	Short	Sept. 28	4.00
Kathleen Lehman. Large decorative, orange bronze.....	Med.	Sept. 28	3.50
Admiration. Decorative, secondary border, salmon fawn.....	Med.	Sept. 28	3.25
Morocco (DePetris—New). Dwarf reddish bronze cushion.....	Short	Oct. 1	7.50
Produces 3½ inch blooms in large quantities on well shaped plants. A border plant.			
Caprice (DePetris—New). Large full deep apricot bronze decorative	Med.	Oct. 1	7.50
4 inch blooms. Strong bushy semi-dwarf growth with excellent foliage.			
P Iron Mountain. Deep red pompon changing to rust.....	Med.	Oct. 1	6.25
A very beautiful red when first open, fades rapidly. Responds very sharply for spring pots. Well suited for either 6 inch or 3 inch pots and responds for Valentine's Day.			
Jubilee (H). Pompon, secondary border, crimson red.....	Med.	Oct. 1	4.00
Royal Ruby. Pompon, secondary border, dark crimson.....	Med.	Oct. 1	4.00
Mogul. Pompon, secondary border, orange rust.....	Med.	Oct. 1	4.00
Reverie. Decorative, secondary border, buff bronze.....	Med.	Oct. 1	5.00
Fiesta. Pompon, secondary border, orange rust, good for cut.....	Tall	Oct. 1	3.50
Magnificent. Decorative, secondary border, plum red.....	Tall	Oct. 1	3.50
Red Cloud (Cushion). Border, scarlet red.....	Med.	Oct. 1	3.50
Red Riding Hood. Decorative, secondary border, bright red.....	Med.	Oct. 1	3.25
Sam Williston (Cushion). Border, deep red.....	Short	Oct. 1	3.25

PRICES FOR MORE THAN 50 OF A VARIETY ON ONE SHIPMENT

Note carefully instructions for ordering on page 8. No orders for less than 50 rooted cuttings of a variety accepted. Minimum total order, 500 cuttings.

50 Only	100-250 Per 100	300-450 Per 100	500-950 Per 100	1000 Up Per 100
\$2.75	\$5.25	\$5.00	\$4.75	\$4.50
3.00	5.75	5.50	5.25	5.00
3.25	6.25	6.00	5.75	5.50
3.50	6.75	6.50	6.25	6.00
3.75	7.25	7.00	6.75	6.50
4.00	7.75	7.50	7.25	7.00
5.00	9.75	9.50	9.25	9.00
6.25	12.25	12.00	11.75	11.50
7.50	14.75	14.50	14.25	14.00

BRONZE AND RED GARDEN (Hardy) VARIETIES

Variety	Height	Flowering Date	Price 50 Only
Gondolier. Decorative, secondary border, crimson red.....	Med.	Oct. 1	\$5.00
Leshara. Decorative, novelty, secondary border, mulberry red.....	Med.	Oct. 1	3.75
Bonfire. Decorative, secondary border, bright red.....	Med.	Oct. 1	3.75
Fire Engine. Single secondary border, flaming red. Good as spring pot	Med.	Oct. 1	3.75
Card. Spoon. Spoon type, secondary border, red bronze.....	Med.	Oct. 1	3.50
P W. P. Snyder. Medium pompon, apricot orange..... Responds well for spring pots. Well shaped plants. Must have full 60° temperature if bloomed before Mother's Day.	Med.	Oct. 1	3.75
Mme. Cadillac. Large pompon, border, raspberry wine.....	Short	Oct. 1	4.00
Firecracker. Decorative, background and cut, mahogany bronze.....	Tall	Oct. 5	4.00
Cydonia. Decorative, background and cut, mahogany bronze.....	Tall	Oct. 5	3.00
P Sept. Cheer. Cherry red single, low growing..... Responds well for spring pot plants.	Med.	Oct. 5	3.00
Burgundy. Large pompon, background and cut, wine red.....	Tall	Oct. 5	3.00
Ruby Pompon. Pompon, secondary border, ruby crimson.....	Med.	Oct. 5	3.00
Red Torch. Single, secondary border, bright red.....	Med.	Oct. 5	3.00
P Mona. Rust bronze formal pompon, responds for spring garden pots	Med.	Oct. 5	3.50
Avalon. Pompon, background and cut, orange bronze.....	Tall	Oct. 5	3.75
Courageous. Decorative, secondary border, dark ruby red.....	Med.	Oct. 5	3.25
P Remembrance. Decorative dark carmine red..... Holds color well and response good for spring pots when temperature is held at full 60° during bud set. Better to use for Mother's Day or later.	Med.	Oct. 5	3.50
Regina. Large decorative, secondary border, apricot bronze.....	Med.	Oct. 5	4.00
Huntsman. Large decorative background or cut scarlet orange.....	Tall	Oct. 5	3.75
Granada (DePetris—New). Deep coppery bronze, decorative..... Very free flowering. Intermediate size flower. Produced in masses on excellent stems and foliage. Medium height. Good secondary border plant.	Tall	Oct. 8	7.50
Buckeye. Pompon, secondary border, salmon bronze.....	Med.	Oct. 8	4.00
Beacon. Large decorative, background and cut, coral apricot.....	Tall	Oct. 8	3.25
Aviator. Pompons, secondary border, copper bronze.....	Med.	Oct. 8	3.25
Success. Large pompon, disbud, secondary border, deep crimson red	Med.	Oct. 8	4.00
Miguel. Pompon, secondary border or cut, raspberry red.....	Tall	Oct. 8	4.00
Orpheus. Roman red pompon for cutting.....	Tall	Oct. 10	4.00
Gladiator (DePetris—New). Large 4 inch full decorative orange red Plants are medium tall with upright stems and good foliage. Very free flowering considering size of blooms. Try disbudding this one.	Tall	Oct. 10	7.50
Carnival. Pompon, background or cut, burnt orange.....	Med.	Oct. 10	3.75
P Caravan. Large decorative, secondary border, salmon bronze.....	Med.	Oct. 10	4.00
Blueblood. Decorative, background or cut, amaranth red.....	Tall	Oct. 10	3.50
Carmine Queen. Deep carmine red formal pompons..... Produced on excellent sprays. Good early red cut flower under glass or in the garden.	Tall	Oct. 10	3.75
Bamboo. Single prolific bloomer, background or cut, buff orange....	Tall	Oct. 10	3.75
Fireside. Decorative pompons, background and cut, burnt orange....	Tall	Oct. 10	3.50
Nocturne. Early crimson cut flower variety.....	Tall	Oct. 12	3.75
P Red Velvet. Large decorative dark crimson..... Responds readily for spring pots. Not quite as showy as Remembrance or Iron Mountain.	Med.	Oct. 10	3.50
Admiral. Pompon, background and cut, dark red.....	Med.	Oct. 12	4.00
Fashion. Decorative, secondary border, rosewood with dark center....	Med.	Oct. 12	3.50
Witchery. Petal decorative, secondary border, golden bronze quilled	Med.	Oct. 12	3.50
Crusader (New). Large double crimson red..... Blooms 4 or more inches larger when disbudded produced on strong robust stems, with very strong flower petioles. This is an outstanding specimen variety when disbudded for the late Mum garden or as China Mums.	Med.	Oct. 12	7.50

BRONZE AND RED GARDEN (Hardy) VARIETIES

Variety	Height	Flowering Date	Price 50 Only
P Mrs. DuPont. Coral buff, large decorative pompon..... Responds to off-season blooming, good for spring pots.	Tall	Oct. 12	\$3.75
P James Stewart. Small apricot gold pompon..... Produced on excellent sprays and good stems. Good for early colth house, cut and normal blooming under glass, also in the garden.	Tall	Oct. 15	3.75
Robinhue. Decorative pompon for background and cut, dark red.....	Tall	Oct. 15	3.75
Bokhara. Decorative, secondary border, brilliant red.....	Med.	Oct. 15	3.75
Rajah. Large scarlet red daisy..... Good sprays and stems. Excellent as cut flower in the garden or under glass normal.	Tall	Oct. 15	3.75
Chopin. Large incurved disbud, background light bronze.....	Med.	Oct. 15	5.00
Moonmaid. Pompon, background and cut, salmon bronze.....	Med.	Oct. 15	4.00
PD Calumet (H). Brilliant apricot, large decorative pompon..... Produced on excellent sprays, having good stems and foliage. Responds very well as spring pots, making a better plant than Mrs. Du Pont. Responds well in the early cloth house and is used normal in the greenhouse as cut flowers, also where the weather permits it is a wonderful cut flower garden variety.	Med.	Oct. 15	3.75

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3.75	7.25	7.00	6.75	6.50
4.00	7.75	7.50	7.25	7.00
5.00	9.75	9.50	9.25	9.00
6.25	12.25	12.00	11.75	11.50
7.50	14.75	14.50	14.25	14.00

SPECIAL COLLECTIONS of GARDEN VARIETIES

For growers who are not familiar with Garden Varieties, but who want a well-balanced assortment, we offer the following collections, which include the better varieties.

COLLECTION #1
Taller varieties
for cutting.

COLLECTION #2
For bedding
or borders.

COLLECTION #3
50% for cutting;
50% for bedding.

COLLECTION #4
For Easter, Mother's Day
or Memorial Day pots.
(state which)

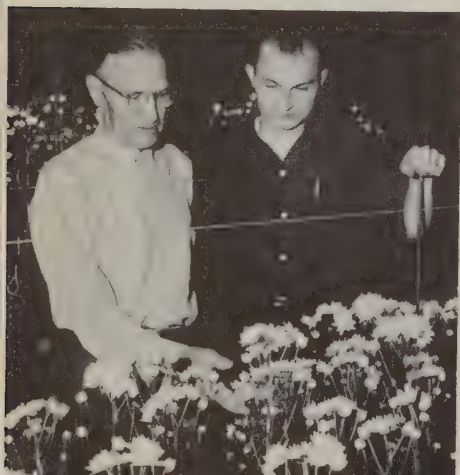
COLLECTION #5
Cushion Varieties
Only.

Prices above 5 collections, each: 300 to 550 cuttings, \$5.00 per 100; 600 to 850 cuttings, \$4.75 per 100; 900 or more cuttings, \$4.25 per 100. Minimum collection, 300 cuttings. More than 300 cuttings must be ordered in units of 50.

Year round mums in the Northwest! Mr. Jacobsen Senior (right) and son Don, of Jacobsen Greenhouse Co., Spokane, Washington, shown in their year round mum section.

Year round pot mums in the San Francisco Bay Area. Here's Andy Podesta (right) of F. Podesta Nursery, East Palo Alto, California and John Kyne, Ball representative. Andy has done a good bit with "Cal-Mix" (peat-sand) on his pot crops.

Henry Mollgaard, pot plant grower of Snohomish (Seattle) Washington, shown with a sample of his year round pot mum crop. Henry reports generally good reception for pot mums in this area especially in spring-summer.



On Growing Good Mums

WHAT'S THE TRICK?

Occasionally you will hear someone say, as they admire a really good job of growing. "What is the trick you used to get such beautiful results?" Some special fertilizer, for some reason, is often suspected.

There aren't many things we claim to **know** about this business of growing. One thing though that seems clear is that good growing isn't a "trick." It's more likely the day in and day out attention to dozens of little well-known details. It's that extra spraying a bench of newly planted cuttings gets on a hot afternoon, keeping after planting crews about shallow planting of cuttings, getting shade off the roof promptly in the fall—and so on down the list. Of course, to some extent, a man must have a "feel" for plants—he must instinctively hurt a little bit inside when he walks by a dry plant. But mainly, good growing is just doing the little things that are not secret—doing them all day, **every** day.

We hope that these remarks about Mum culture will help guide those really interested, to many of the little points that make for good Mums.

ABOUT MUM SOILS

There isn't any one type of soil that Mums particularly favor. There are some rules of soil **management** that are quite important. Most important of these is the matter of humus. A hard poorly aerated soil just won't grow good Mums. A good Mum soil should have a loose open texture. When water is applied, it should soak into the soil, not run off. It should be possible to push one's fist down into a bench of Mum soil. A good Mum soil won't crack as it dries.

Most any reasonably good field or garden soil can be made into this kind of a porous open growing medium by additions of humus. Peat will do it, manure too—and some growers get humus by using sod rotted down.

Field Soils

Where new benches are being filled, or where soil is changed annually, outdoor field soil must be used. Any good field soil that has been growing good farm crops can be brought into the bench, 1½ inches of peat or other humus added, the soil steamed, and it will be ready to plant. Better results will often result if the land to be used is planted to a cover crop several years in advance of its use. Rye or Blue Grass are both excellent. It takes about two years to build up organic matter in soils in this way—and the amount of humus won't increase much after that. Fertilize the cover crop regularly. Post recommends 800 lbs. of 5-10-10 per acre the first year if no manure is used. After that, 200 lbs. of ammonium sulfate per acre applied each spring if recommended. Acidity must be checked, lime added if necessary. Tops are cut each year at the bloom stage.

Such cover crops should be turned under about one month before soil is needed in the bench. Since rotting of the roots etc. in these soils tends to take up available nitrogen, it is important to watch nutrient levels the first few months such soils are in the bench. Manure or peat may be added just before plowing field soils under—and will help in many cases.

Re-using Greenhouse Soils

The majority of cut flower growers now keep their bench soils in more or less permanently. It is almost standard practice to steam the soil annually. Humus is maintained by regular additions of peat, or sometimes well rotted manure, or both. Nutrients are supplied usually in liquid form, or sometimes dry.

By and large the system works well. It saves the tremendously expensive task of wheeling out hundreds of yards of soil during the hot summer weather. It eases the ever increasing problem of finding good fresh topsoil. A sterilized soil is free of weeds, soil-borne insects and diseases. With modern methods, steaming is really not too much of a job. Many year round Mum growers now steam all beds twice yearly.

Several points should be watched. Most important is to insure that adequate humus—peat—is added. Most soils will benefit from about 1 to 1½ inches of peat—(domestic or imported) annually. Peat can be overdone—resulting in a soil that stays too wet, aerates poorly. Mums won't grow in a peat bog. But, more often the error is the other way. Some growers add the peat as a mulch on cuttings benched in warm weather.

Another point worthy of mention here: somewhere there is a limit to the number of years a soil can be re-used. This tends to become a problem quicker where one crop is grown continuously. We have all noticed that some of the very best crops of Mums—and other flowers—come from the first use of fresh outdoor soil. It's hard to put a limit here—five or six years of continuous cropping with Mums might bring the grower close to trouble. Try half a bench of fresh soil—do they grow better?

About Sterilizing Soils

Steam is pretty generally used.

A surprising number of growers are still going at this task the hard way. Some growers are still burying tiles or conduits. A completely satisfactory job of steaming can be done without burying anything. Briefly here is the procedure:

Generally, the peat or humus is added first. This is plowed into the soil, to a depth of 6 to 8 inches on ground beds or to the depth of the bench on raised benches. Next the conduit is laid down the bench—some means of conducting the steam from end to end. By far the easiest to handle and most efficient in our experience is the thin walled canvas hose—5 or 6 inches in diameter. A 150 ft. roll can be carried under your arm! Some difference from the heavy pieces of metal conduit. Source for the canvas hose: Pike's Peak Florist, 519 E. Columbia Street, Box 1303, Colorado Springs, Colorado.

Next a thin plastic sheet is laid over the bench, weighted down at the sides with pipe, etc.—or fastened to the side wall of a raised bench with strips of wood held in place with "C" clamps. Steam is then turned into the conduit until the coldest point is heated to 180° for 30 minutes. Preparation of the bench after tilling should take no more than half an hour for two men.

The cover is removed promptly after steaming. Then (once a year) 4 to 5 lbs. of 20% superphosphate are added. Where after-steaming troubles tend to appear, 3 to 5 lbs. of gypsum is also added. As a further precaution, some growers leach the soil quite heavily at this time—up to 5 gallons per sq. ft. This may be applied in one continuous irrigation if some sort of nozzle irrigation system has been installed. Otherwise, several heavy waterings all one day may be applied.

For more complete notes on steaming greenhouse soils, see GROWER TALKS, August-September, 1953.

A few more words on those after-steaming troubles. They are due to a variety of disturbances that, of course, result from steaming. Most typical is build-up of ammonia and nitrites which cause root tips to brown off. About 3 to 3½ weeks after steaming, plants will wilt, gradually at first, in some cases quite severely, even enough to kill the plant. Ammonia and nitrites (not nitrates) show fairly high on soil tests.

ON GROWING GOOD MUMS

The gypsum and leaching described above help. Since the trouble is most common in hot weather, steaming during cool seasons helps. Where the trouble appears, about all that can be done is to cultivate deep and carry the beds on the dry side—to help aerate the soil.

Chemical Sterilizing

If steam is impossible, chemical sterilizing is a lot better than nothing. If chemicals are used: **Chloropicrin** (tear gas) does the most effective job of killing disease organisms. However, plants are very sensitive to it—must not be used in a house where plants are growing. Also, takes some days for all gas to escape from soil. Not as dangerous to growers because of the strong odor. Trade name: **Larvacide**.

Methyl Bromide: less effective in killing disease organisms, but far less prone to injure plants. Clear Methyl Bromide can be used in a house with other plants with normal precautions. Methyl Bromide is more dangerous to growers since it has no strong characteristic odor. MC2 is Methyl Bromide with a small per cent of Chloropicrin as a warning agent—but also enough to injure plants.

FERTILIZER AND GOOD MUMS

Mums, being a heavy leafy plant, tend to be heavy feeders, especially mature plants, and during the seasons of active growth (summer-fall). However, it is just as easy to overdo on feeding as it is to cut them too short.

It is difficult to offer any suggestions on how much of what type of fertilizer to apply—and when. The only answer to this question is a soil test. Roughly the following nutrient levels should be maintained, in our experience:

Nitrates	20-40	parts per million, Spurway
Phosphorous	3-5	parts per million
Potash	20-40	parts per million
Calcium	150-250	parts per million
pH	6.4-7.0	

In general it is desirable to start out newly planted cuttings at levels somewhat below those given above. However, even the newly planted cutting must have nutrients.

Few growers actually do their feeding strictly according to soil tests. The more common practice is to set up a regular feeding routine that from previous experience is known to be about adequate. Then the benches are "spot checked" by means of soil tests every month or two. The feeding program can then be adjusted if nutrients are found to be too low or too high.

Methods of Application

Most common, least labor, and definitely better in terms of plant response in our experience, is liquid application. This can be done either by installing stationary tanks and piping the dilute fertilizer directly to the plants—or by various mechanical equipment. An ordinary 10 or 20 gallon insecticide sprayer can be used. A stock solution is made up of 2 lbs. of Kapco 25-0-25 per gallon of water for example. One quart of this stock solution is poured into the tank of a 20 gallon sprayer—after which it is filled with water. The insecticide nozzle is removed from the end of the applicator, the pressure set down to maintain about 80 lbs. This 20 gallons will feed 200 sq. ft. in about 5 minutes.

We have had favorable results for several years now with a new proportioning type of injector from Smith Precision Products Company, 1135 Mission Street, South Pasadena, California. This unit injects liquid fertilizer concentrate (or stock solution) into a water line (1 to 100) in proportion to the amount of water that is taken from the line. It is entirely automatic. With this equipment, a man can fasten

a hose to this fertilizer line, draw out water to which the liquid feed has been injected—and apply it directly to the crop. One unit will serve two men each with a $\frac{3}{4}$ inch hose. Cost about \$275. We have been preparing our stock solution as follows:

Use a clean 50 gallon barrel. Dump 75 lbs. of 25-0-25 (Kapco) and 25 lbs. of ammonium nitrate into the barrel. Then add water enough to fill the barrel. This will make 50 gallons of stock solution—at roughly 2 lbs. of dry fertilizer per gallon of water. If nitrates tend to run too high on soil tests, omit the ammonium nitrate. Use 100 lbs. 25-0-25.

If pH runs too high, use ammonium sulfate instead of ammonium nitrate.

During the brighter seasons of the year, most of the waterings our Mums receive (both pot and cut flower) have been with this dilute fertilizer. They are actually fed 2 or 3 times weekly. With very little exception, this procedure has maintained the nutrient levels in our soils within the limits prescribed above. Phosphorous is supplied in adequate amounts by the once a year addition at sterilizing time. Calcium the same. If nitrogen, for example, tends to run too high on a series of soil tests, the stock solution can be varied to correct this.

Actually, we combine this automatic feeding device with automatic watering—with the Hoseboye reel type watering machine. The Hoseboye inlet hose is fastened onto the fertilizer line. The machine does the feeding and watering—leaving the grower free for other tasks. Liquid fertilizer injection can, of course, be teamed up similarly with most other automatic watering devices.

There are various other types of mechanical equipment available for fertilizer injection. Many are of the non-proportioning type—somewhat less expensive. For more on this type of equipment, see GROWER TALKS September 1955, page 14. In the May 1954, issue, page 5, will be found full directions for use of all common fertilizers in liquid form—dilutions, etc.

Many good growers feed Mums in dry form. Here are materials commonly used, strength, rate of application:

Nitrogen Carriers	Rate of Application
Ammonium sulfate (20% nitrogen)	1 lb. per 100 sq. ft.
Ammonium nitrate (30% nitrogen)	$\frac{1}{2}$ lb. per 100 sq. ft.
Sodium nitrate (15% nitrogen)	1 lb. per 100 sq. ft.
Phosphate Carriers	
Superphosphate 20% (20% phosphate)	5 lbs. per 100 sq. ft.
Superphosphate 40% (40% phosphate)	3 lbs. per 100 sq. ft.
Potassium Carriers	
Potassium sulfate (48% potash)	1 lb. per 100 sq. ft.
Potassium chloride (48% potash)	1 lb. per 100 sq. ft.

Miscellaneous

Calcium sulfate (gypsum) furnishes calcium but does not raise pH.	5 lbs. per 100 sq. ft.
Calcium oxide (ground limestone) to raise pH of soils	2 to 4 lbs. per 100 sq. ft.
Wettable sulfur—to lower pH of soil	1 to 3 lbs. per 100 sq. ft.

There are, of course, complete fertilizers in dry form. Such materials as Vigoro, Armour's Florist's Mixture, etc. are much used. Generally they carry an analysis of around 5-10-5, in some cases higher in nitrogen. In the absence of any tests, a Mum crop that is felt to need fertilizer will normally need several applications of this type of material, around 2 lbs. per 100 sq. ft. each time, starting soon as the plants are in active growth.

Some Cautions on Feeding

First, as any grower experienced in the northern dark winter country knows, both feeding and watering must be drastically

reduced during dark weather. As a very general guide, Mums on a ground bed in midwinter will need perhaps 1/5 as much of both fertilizer and water as the same crop in midsummer. Of course, the crop should not be allowed to wilt—nor should it be starved for nitrogen. But it will need so much less of both water and feed during the short sunless days of January that, with reasonable care, this shouldn't happen.

In general, fertilizer should not be applied to a dry soil. Better water lightly first, feed, then soak well.

A problem sometimes associated with feeding (overfeeding) is an excess of soluble salts in the soil. We are concerned here with an excess of the **total of all soluble salts** in the soil. The soil solution simply becomes so concentrated that roots cannot take up moisture. Solu-Bridge readings will indicate quite accurately whether total salt concentration is too high. Where do these salts come from? Usually from a very hard water that constantly adds salts and from heavy fertilizing. Cure: leaching 3 to 5 gallons of water per sq. ft. If the problem is too serious it may be more practical to change soil.

DIRECT BENCH CUTTINGS!

It gives so much more rapid growth than any other way of handling them—and it's so much less work besides. We have direct benched nearly all of our Mums for several years; losses even in hot weather have been negligible.

However, it's one of those operations that must be done right. The rules are simple, easy to follow, but failure on any important point can mean real loss. Here are the "rules" that we follow.

Nutrient levels must be low to medium, especially nitrogen and potash. Too high levels will burn roots; too low starves the plants. Occasional Solu-Bridge tests will tip you off to excesses of salts. Tender roots of new cuttings aren't very tolerant!

Peat. Be sure to use plenty! We add 20 to 25% by volume yearly. Other kinds of humus are O.K. if free of harmful salts, etc.

Steaming. We find that if we don't steam our beds once a year we start losing cuttings to stem rot shortly after planting, especially in hot weather. Steaming stops this loss cold. For this reason we like to do our steaming during the summer, just prior to benching of the summer plantings. Actually there's some less danger from "after sterilizing" problems if steaming is done during cooler months, perhaps in spring.

We have for several years made it a rule to **steam all beds the day prior to benching of cuttings**. Many other growers follow this practice on Mums and other crops. Where peat has been applied and where salts are at reasonable levels, it will work almost 100%. Somehow the cuttings take off exceptionally well in the newly steamed soil—even if it's still warm.

Bone dry soil. Tender roots of new cuttings planted in bone dry soil will wither and die. Soil must be medium moist.

Plant shallow. Mum cuttings must be set just as shallow as possible. Even if a few are knocked over by the first watering, they can easily be set up again. Setting the root ball down 2 to 3 inches deep will guarantee a slow start—and often trouble with rotting of cuttings. Firming soil before planting helps keep 'em shallow.

Watch your planting crew. It's so important!

About misting. Where cuttings are direct planted in hot weather, it is very important that they be misted—sprayed overhead lightly—3 or 4 times on the first few days. Keep the foliage moist.

Cold storage of cuttings. If cuttings have been stored at a low temperature, be sure to warm them up gradually—12 hours at room temperature is best—before setting them in a hot greenhouse. Incidentally, storage, even under ideal conditions, doesn't improve a cutting. Plant just as soon as possible after receiving the cuttings! If they must be stored, do so as near 32-36 degrees as possible.



MUMS NEED PEAT

Exposure of roots. Those little roots on a cutting are delicate. Five minutes exposure to strong sun will wither them. Watch planting crews to be sure they don't take a lot of cuttings out of the boxes, lay them out along the bench for the planters. It can spell disaster.

Plant a good cutting. Whether it's Mums or Carnations or what have you, it's hard to make direct benching work unless the cuttings are good ones. That means 4 to 6 inches long, husky yet succulent (brittle), roots 1 to 1½ inches long. A weak cutting just won't make it.

SPACING CONTROLS STEM WEIGHT

If your crop is producing too many heavy Pompon sprays and too large Standards, space closer. If you're getting a lot of culls, give them more room.

For normal season Pompons where a uniform quality spray is desired, space 6 x 7, prune to 2 stems per plant, 3 on outside rows. This will give very few culls and you'll be averaging 6 stems per 9 to 10 ounce bunch.

Some growers space 7 x 8 or 8 x 8 inches, prune to 3 (outside rows, 4). This gives more culls, less uniform cut, a few more stems per foot.

Standards: the trend seems to be away from a 7 or 8 inch Mum. They bring little more than good clean 5 inch blooms. We are spacing our pinched Standards 7 x 7, 2 stems per plant (outside rows 3).

Single stem spacing on fall crops both Mums and Pompons: 6 x 4 or, if you're shooting for medium stem weight and more production, especially on Pompons try 5 x 4.

PINCHING—AND TIME PINCHING

Time pinching simply means pinching plants on the pinch date given in this catalog. See variety lists. To have normal (fall) Mums ready to pinch on the catalog pinch date, plant cuttings about two weeks prior to that date. Then pinch on the date given in this guide.

Pinching on the correct date generally assures Pompons with good, open spray formation. Standards pinched on the correct date will not usually throw crown buds—thus eliminating dog-leg necks.

Single stem: ordinarily produce good spray formation if cuttings are planted on the catalog pinch dates.

Softly, Please

You'd be surprised how much better results you'll get by just pinching out the top ¼ to ½ inch. Pinching down hard means that new shoots must come from old, hard wood.

SUPPORTING THE EASY WAY

One layer of wire-cross strings will support any ordinary bench of Pompons or Standards. The one layer must be moved up every week or two, but if properly set up it takes only minutes.

ON GROWING GOOD MUMS

Better than this, though, is the use of wire mesh. Already in general use among western and southern Mum growers, it seems to be quite practical. Between crops it is raised overhead out of the way for plowing, etc.

Wire mesh eliminates

1. Unrolling and stretching individual lengths of wire;
2. Winding them up after the crop;
3. Stringing, too!

INSECTS AND DISEASES

We vote for the prevention approach!

Once an infestation has built up, much damage is already done. Furthermore, it takes more effort to put down a serious build-up than it does to prevent its ever happening. Then too, the fellow who waits for trouble to appear must spend a lot of time just looking for it.

Here is an example of such a program—based on previous experience—and on the excellent dope on the subject from the state schools.

Basic Spray

Starting 10-12 days after planting cuttings, spray weekly in summer (less in winter) with the following solution, discontinuing spray when color shows.

Per 10 gallons water	
2 1/2 oz. Parathion 15% wettable powder	red spider, foliar nematode, aphids, midge, thrip, various leaf chewers, mite.
1 1/2 oz. DDT, 50% wettable powder	thrip, midge, sow bugs, leaf rollers, pill bugs, leaf hoppers, white fly, tarnish plant bugs.
1 1/2 oz. Wettable sulphur (powder)	powdery mildew (may be omitted where mildew is not present)
2 1/2 oz. Fermate	Septoria leaf spot, rust, (general fungicide)
Dreft (or other spreader)	spreader

Notes:

1. Many growers depend heavily on aerosol bombs for insect control. They will work, and are certainly less work than spraying. They are not inexpensive though. Also, it is not possible to apply a fungicide along with the aerosol. We do use aerosols during the winter. The biggest point from our experience is that it seems hard to get real control of some of the tougher kinds of spider and aphids with anything other than spray.

2. Sources for the above materials: your local supply firm or Dahm's Greenhouse Supply Co., Lee & Oakton Sts., Des Plaines, Ill.

3. **Mixing procedure:** here's how we do it:

- a. Put all dry ingredients in a cut flower can.
- b. Add small amount of water, stir to make a thin paste. If water is poured in too fast, a cloud of dust from the dry ingredients will rise—obviously dangerous!

c. Fill spray tank 1/4 full. Add above slurry gradually with stirring (run agitator in tank).

d. Fill tank.

4. If aphids are exceptionally troublesome, add 1 1/2 oz. of Lindane, 25%, per 10 gallons.

5. **Petal rot** (ray blight or botrytis): a serious problem especially on Standards flowered under hot or humid conditions. A very effective preventive spray: per 10 gallons of water, 1 1/2 oz. Parzate, and spreader. Apply every 4 to 7 days as needed, starting as color shows. Use maximum pressure (200 lbs. or more). Just hit flower buds and blooms. Takes only 4 to 5 minutes per 150 ft. bed.

6. Over a period of years, we find that insects (aphids especially) tend to become resistant to any one insecticide. Therefore, we change occasionally—using such materials as Lindane, nicofume pressure fumigators (under sateen), Aramite spray, Vaportone.

MUM DISEASES

For simplicity, the preventive sprays for control of septoria leaf spot, mildew, petal rots, etc. were included under the insect section (above).

Here's a brief run-over on Mum diseases:

Petal Rot (see photo)

These rots can ruin an otherwise fine crop—and in a hurry, too! Suggestions:

1. Under glass: fairly heavy shade, especially on Standards flowered in midsummer, will prevent sunburn injury. Ample ventilation, even a little heat on during summer evenings, helps prevent botrytis—keeps petals dry. Also, of course, Parzate spray on flowers from the time they show color. (Note 5, above)
2. Outdoors: spray programs (above) are very effective. Parzate as a dust kept on opening flowers has given even better control for growers on the Gulf Coast.

Septoria Leaf Spot (see photo)

Worse on outdoor crops. Clean cuttings plus the preventive spray program above will give good control.

Verticillium

Clean (cultured) cuttings planted to sterilized soil will eliminate it. Our cuttings are cultured!

Stunt

A virus that will stunt occasional plants to 1/2 to 2/3 normal height—and bleach flowers of red and bronze varieties. Again, clean cuttings on sterilized soil ordinarily eliminate this problem.

Foliar Nematode

Tiny worms feeding within the leaf tissues cause this condition. Especially under outdoor or any warm, wet conditions, it can spread very rapidly.

Control: preventive spray program above. The Parathion does it.

Dodder

Pale, yellowish to orange threads (vines) growing very rapidly over stems, leaves and flowers—that's Dodder. It has

(Turn to page 52)



Common Mum diseases: 1 to 6, normal leaf, septoria leaf spot, foliar nematode, puccinia (rust), botrytis (petal rot), and ascochyta (petal blight).

COMMON PESTS



RED SPIDER

Actual size: $\frac{1}{64}$ inch
Not usually red—more often are yellowish or orange. Very small. Usually found on under surface of leaf. First sign of injury is pale green mottling of upper leaf surface. Will eventually cover lower surface with fine spider webs—later will spin webs over stems, buds, even support stakes. Build-up very rapidly in hot, dry summer greenhouse.

Preventive program, page 50. Parathion very effective. Outdoor growers report good control with Systox, 1 liquid oz. per 100 sq. ft. of area.

How to Identify

Control



MIDGE

Actual size of gall: $\frac{1}{16}$ inch; adult fly $\frac{1}{14}$ inch.
What you usually see are the peculiar small ($\frac{1}{16}$ inch) light colored humps of warts (above) usually on new tender leaves. Inside, you may still find the tiny egg or larvae. Eventually causes gnarling of whole growth tip. Adult (above) not usually seen.

Preventive program, page 50. DDT dust **kept** on all foliage is very effective.



SYMPHYLIDS

Actual size: $\frac{1}{3}$ inch
Found in soil, usually around roots. If Mums seem checked, growing slowly, yellow leaf edges; dig a few of the poorer plants. If you see these little white fellows running for cover, you've got symphylids! They chew at root tips.

On raised benches: steam. On the ground, drench soil with Lindane. Use 12 ounces of 25% wettable powder dissolved in 200 gallons of water per 1000 sq. ft.



APHIS

Actual size: $\frac{1}{16}$ inch
Soft bellied lice. Pale green to dark brown, or nearly black. They usually infest new growth tips, leave molted skins, cause tips to be deformed. Also will infest open flowers. Either winged or wingless form may be seen—both shown above.

Preventive program, page 50. Lindanes especially effective.

How to Identify

Control



THRIP

Actual size: $\frac{1}{32}$ inch
Usually pale green, sometimes darker brown. Infest foliage and open flowers; cause general browning of blooms, especially in warm weather. Flowers must be picked apart and examined carefully with hand lens to find them.

Preventive program, page 50. DDT especially effective.



MEALY BUGS

Actual size: $\frac{3}{8}$ inch
They're pure white, have a sort of waxy coating over them, usually are found in clusters. Often they hide themselves under leaves, etc. They are soft-bodied.

Preventive program, page 50.



LEAF TIER

Actual size: $\frac{1}{2}$ inch
This is the fellow that ties a Mum leaf about himself with a fine web—ruins foliage effect.

Preventive program, page 50. DDT is very effective.

How to Identify

Control



LEAF MINER

Actual size of worm that does the "mining"— $\frac{3}{16}$ to $\frac{1}{4}$ inch long. You just know about leaf miners by the unusual appearing tunnels they make across leaves—leaving both upper and lower surface intact. Pictured above: typical injury and the adult fly.

Preventive program, page 50. Hand picking helps, but is slow work.



TARNISHED PLANT BUG

Actual size: $\frac{1}{4}$ inch
An easy-to-identify beetle. Their sting harms tissue of plant, often causes deforming of growth, bending of tip.

Preventive program, page 50. Parathion is effective.

ON GROWING GOOD MUMS

(Continued from page 50)

no leaves—being a parasite. It can ruin a bed of Mums in 2 weeks. Usually it comes in with peats, soils, or manures from outdoors. Steam kills it. Once a bench is affected, it is far cheaper to remove and burn all affected plants.

CLOTH HOUSE ANGLES

Top quality Pompons are flowered under cloth from August 1 into October—if frost protection is available. Pointers.

1. Schedules—the regular tables apply.
2. Diseases are something more of a problem than under glass. The preventive spray outlined on page 50 will keep them clean ordinarily, though.
3. Cloth. Cotton or Aster cloth is more effective in keeping leaf hoppers and small insects out than plastic (Saran). The Saran is more expensive but will last many seasons. If Saran is used, specify amber—not the green. The green makes too much shade—reduces production.

4. Cloth house construction—for full details see our BALL RED BOOK, Eighth Edition, page 58.

Varieties

Based on a cross section of cloth house crops across the Mid-west and East this past fall, here are the topnotchers:

Whites: The top three here are definitely Encore, Whitetop, and Pristine. Encore is pure white and lovely when well done, but has some tendency to shy breaking after the pinch; best up to late September. Whitetop looks very promising especially after September 10. Pristine is definitely tops for earlier (up to mid-September), pure white and a good shipper; production about average.

"Also ran" in whites: Shasta (tops if you don't ship), Belray (beautiful, but some petal spot), White Popcorn, Keep-sake, Pinocchio. Good daisies: Freedom, Pacesetter.

Yellows: The four heavyweights here: Gold Coast, Orange Beauregard, Golden Chord, and Forty-Niner. Gold Coast is the bread-and-butter yellow especially for early flowering. Orange Beauregard looks very good clear through the season. Golden Chord and Forty-Niner are definitely tops for later (after mid-September.)

Other good yellows: Yellow Shasta, Sunup (fine for early), Golden Herald. Goldfinch (good new one), Lollipop.

Good daisies: Aztec, Starbright.

Pinks: Bluechip and Portrait clearly dominate the pinks. Bluechip used more than Portrait except for later (Oct.) Excellent bright colors, large flowers that ship well, good producers.

Other pinks: Masterpiece, Taffeta, Almaga, Pennant, Memorial. Daisies: Reward, Mayfair.

Bronzes: The "big four"; Rubicon, Beauregard, Thelma, and Magician. Rubicon and Beauregard are both excellent more or less throughout the season. Thelma is a wonderfully warm color and especially good after late Sept. Magician, a newer one, shows great promise for October. Jetfire is a topnotch fiery red Pomp.

Other good bronzes: Rusticon, Bronze Pandora (new, a fine warm color, but only after Sept. 15), Chevron, Bronze Minuet, Paragon (after Sept. 20). Good daisy: Buckskin.

SHADE ON THE GLASS?

Opinions among growers do vary plenty here!

Our own experience has led us to these conclusions:

1. The less shade, the better as far as growth, production, quality of Mums (or Snaps, or Carnations) are concerned.
2. Standards flowered during the hot summer months will usually show petal rot or burn unless shaded fairly heavily (during flowering only)—and given regular Parzate spray. Muslin or Aster cloth stretched above beds in flower doesn't seem to do as much good as actual shade on the glass—altho a combination of light shade on the glass plus cloth over the bed is often used.

3. We have **not** been shading newly planted cuttings. It seems unnecessary if they are sprayed overhead lightly several times daily till established.

4. There are times when it just gets so hot under glass that if you expect people to stay in there and work, you have to put a light shade on. It does help cut down watering. And it reduces temperature under the sateen covers in late afternoon.

5. Pot Mum specialists who flower through the summer months generally carry a light shade.

6. Tests at Michigan State College showed that ordinary Aster cloth (46% light reduction) cut production very substantially on greenhouse Pompons. **Different varieties produced from 10 to 55% less bunches per foot under the cloth compared to full sun in the greenhouse.** Makes you want to **not** shade!

Shading—and cooling—of summer greenhouses brings up the very important question of mechanical cooling. For growers who are flowering either pot or cut Mums in summer—early fall, and who are having trouble with heat, this new cooling technique has much to offer. Heat delay can be almost eliminated, and ill effects on quality during hot weather can be largely avoided. For details, write us for pamphlet on Greenhouse Cooling.

TAKING THE BUD

Which bud to let flower on big Mums?

Now that we grow Mums on definite schedules, this too can be reduced to simple rules.

The rule: If the crop is planted and pinched on or near the recommended dates, flower the first bud that appears. In other words, as soon as a bud of any kind appears, remove all side shoots and let the center bud flower.

Crowns and Terminals

Under long summer days (14 hours) a Mum will remain "vegetative"—will produce "blind" growth tips free of buds. As the days gradually shorten towards fall, the Mum becomes "reproductive"—and produces a cluster of flowering buds at the growth tip.

When a plant is physiologically midway between vegetative and reproductive growth, it may produce a so-called **crown bud**—a single flowering bud surrounded by blind or vegetative shoots. It might be called a half hearted flowering bud—produced by a plant not yet fully reproductive.

As days shorten still further, the same plant will become fully reproductive and produce a **terminal bud**—cluster of flowering buds.

Some of these half way vegetative crown buds can be left on and will make good flowers, some can't. You can't tell by looking at them. The point is that if the crop is planted, pinched, and grown according to recommendations, even though a crown might appear, it will almost always be a "good" one. Hence our recommendations to flower the first bud that appears—crown or terminal.

The rule applies to both normal and off-season crops.

A possible exception

Under certain conditions of day length, temperature, etc., some varieties of Mums (or Pompons) can produce a crown bud 3-4 weeks or less after planting. Such crowns produced while the plant is less than 18-20 inches tall, we remove and allow one vegetative side shoot to grow on.

On normal season Standards, a crown that appears earlier than these dates, is best removed:

Varieties that flower	Remove crowns that appear before
Oct. 15-Nov. 5	Sept. 5
Nov. 5-30	Sept. 25
Dec. 1-15	Oct. 5

ABOUT DISBUDS—Short and Otherwise



A good example of a modified short disbud program. Varieties: far left, Indianapolis White; foreground, Portrait; right rear, Luyona. Jake Miller of Yoder Brothers (in the photo) is holding one of the Indianapolis. All these varieties were grown on regular catalog schedules and spacing for single stem cut mums—four weeks of long days, then short days to flower. Spacing 6 x 4 in. Only difference is that they were pinched three weeks after benching, pruned to two stems per plant. Result: 11 to 12 stems per sq. ft. The Indianapolis ran 24 to 26 inches of stem and flowers averaged 4 inches. The Luyona grew 34 inches tall, flowers were 5 inches. Good News grew 28 inches, flowers 4 inches. Ivanhoe grew 36 inches, flowers about 3 inches across. Photo taken October 1. The Indianapolis brought \$1.50 to \$2.00 on wholesale markets. Mums for the masses!

Disbuds are slowly but surely finding their way into the American mum picture. We are learning what our European friends have known for years—that a high quality but smaller size mum produced at perhaps half the cost of a regular standard mum opens new potential markets for mums. It isn't that these "small unit" mums replace the larger ones—rather that new uses are being found for smaller sized blooms for which large standards are not really competitive. It might be said that "big" mums (standards) are one flower. Pompons are another—distinct from standards in appearance, uses, price. Disbuds, altho they are still mums are really separate in the same sense from both standards and pomps.

Good disbuds are tops for moderate priced basket work. Half a dozen well grown 3½ to 4 inch Ivanhoe or Good News or Luyona or Enchantress or Supremes in a basket with suitable filler material make a real show—and at a cost that will encourage the lower price but higher volume trade. For table decorations—low bowls, etc.—they are also very effective. And again, at a price that is much more likely to make flower buyers out of the evasive "masses."

Low mark-up mums

The whole field of low mark-up cash and carry flower sales is extremely fertile ground for disbudded mums. Prof. D. C. Kiplinger says of the Ohio State University test sales program in local grocery stores: "Cut mums proved the best sellers in cut flowers. They also keep much better in the stores. Over 55% of the sales of cut flowers were the mums." (Actually, they offered both disbuds and spray pompons.)

Short Disbuds

It was partly with this type of market in mind that the so-called "short disbud" schedules were presented a year or so ago. These schedules and variety recommendations (Grower Talks, November 1954 page 1) produced definitely shorter stemmed (20 inch) and smaller sized flowers. At some periods of the year (mid-winter and in hot weather) some varieties

tended to be too short and small. Perhaps these recommendations reached too far toward smaller flower size, lower production costs. Our own experience the past year in offering these short disbuds to the local retail trade indicated that a minimum stem of around 26-28 inches, and a minimum flower size of 3½ to 4 inches, and perhaps 5 inches on the anemones and daisies would fit better into the scheme than the smaller flowers. Such grades can still be produced 10-11 per sq. ft., at least 3⅓ crops per year per bench pinched. The main difference is in allowing an extra week or two of long days especially in winter—and eliminating some varieties that fail to develop adequate flower size even when disbudded. Very few typical "pomps" will develop enough size to warrant growing as disbuds in our experience.

Reports from quite a number of growers in general confirm this comment on the original short disbud proposal. One grower has had rather favorable experience producing Indianapolis mums on regular single stem "catalog" schedules and spacing—but pinching them. They pinch two weeks after benching, allow each plant to make two stems, three on outer rows. They brought \$1.50 to \$2.00 a dozen; they cut 11 to 12 per sq. ft. See photo at left.

With the above experiences in mind, we have revised our schedules and variety recommendations for the short disbud program. Altho space does not permit its publication in this Guide, we will send a copy to anyone interested on request—no charge. Just ask for 1956 Short Disbud Schedules.

There are several new disbud varieties being offered this year (see novelty section, pages 1-7). Outstanding among them are Illini Warpaint, Iceberg, Illini Glacier, Luxury, Illini Goldilocks, Calverts, Pink, Sultan.

Several, as noted in the descriptions, showed special value last summer in holding their flower size during hot weather—a tough problem with both disbuds and standards.

Among the best of the standard varieties for disbud culture in our experience are: *the Doty's (white—yellow), *the Enchantress strains, *Masterpiece and sports, *Belray, *Luyona, *Yellow Ivanhoe, *Garnet King, *Almega, *Amber Bright, *Harvest Golden, *Indianapolis, *Good News, *Detroit News, *the Mefos, *Blazing Gold, *Hilda Bergen, *Ivanhoe, the Valencias, the Norma's, Long Island Beauty, the Espy varieties, The Titan, the Supremes, Shasta, Gondola, Portrait, Almega, Golden Herald, Mayford's Triumph, the Peter John Sports.

*Varieties are those best for disbud growing.



Good News at West Chicago, grown on the same modified short disbud schedule as is described under the photo above. Again, 11 to 12 flowers per sq. ft., 4-4½ inches across, and 24-26 inch stems. Note the heavy production. Photo taken September 20. Holding the flower is Joan Bryson of the Ball team.

Ball preferred varieties for

NORMAL SEASON BLOOM

(Based on our greenhouse tests)

Flowering Date →	Sept. 15-30	Oct. 1-15	Oct. 16-30	Nov. 1-15	Nov. 16-30	Dec. 1-15	Dec. 16-30
WHITE							
Pompons, Formal	(Note 2)	Blizzard Horizon Norona	*Pristine Pinocchio (button) Keepsake Wh. Popcorn	*Whitetop Encore Ill. Igloo Iceberg	*Paramount Priscilla Belray	*Acclaim Snowcap Wedding Bells Trenton	*Snow Snowcrest Talmada
Pompons, Decorative	(Note 2)	Silverplate	—	*Wh. Taffeta *Ill. Snow- drift— (novelty)	Highbrow Cordova	*Silversmith Cameo Carrara Wh. Riviera	*Revelation Heirloom Silversmith
Singles (Daisies)	(Note 2)	Calif. Wh. Daisy	Silvertone	*Pacesetter Wh. Mensa Sculpture	Wh. Valencia Eskimo Ill. Star- flower (novelty)	*Orway Yukon	—
Anemones	(Note 2)	—	—	*Little America *Shasta Alaska Wh. Norma	L. I. Beauty Wh. Lady	*Wh. Enchant- ress Wh. Supreme Garza Ill. Glacier	—
Standards	(Note 2)	(Note 2)	*Silver Sheen Ambassador Kay Tashima (Spider) Queen's Lace (Spider) Nightingale (Spider) Silver Queen (Spider)	*Ind. White Albatross Giant Betsy Ross Crystal Queen	*Mefo Chattanooga	*Dec. Glory Smith's White	(Note 1)
YELLOW							
Pompons, Formal	(Note 2)	Br. Forecast Yel. Irene Sweepstake	*Gold Coast Sunup	*Mary Hall *Yel. Beauregard Pixie (button) Golden Chord Yel. Igloo	*Lollipop Pippin Klondike	*Corsair Golden Acclaim Sequin (button)	*Golden Anniv. Yel. Snow Yel. Snow- crest
Pompons, Decorative	(Note 2)	Lemonade Chas. Nye	*Golden Herald Yel. Firebird	Constella- tion Princeton	*Yel. High- brow Highlander Goldsmith	*Yel. Riviera Bandywine	*Vibrant Siren Yuleflame
Singles (Daisies)	(Note 2)	Polaris Goldrush	*Aztec Sauterne	*Starbright Honeymoon Gold. Mensa	*Bojangles Yel. Valencia	*Cinderella Yel. Galaxy	Gold Seal Sunkist
Anemones	(Note 2)	—	—	*Yel. Shasta Susanne Miller	*Mingo Chief Yel. L. I. Beauty (disbud)	*Yel. Enchantress Yel. Supreme Yel. Garza	—
Standards	(Note 2)	(Note 2)	Blaz. Gold Yel. Am- bassador Yel. Lace (Spider)	*Ind. Yellow Good News	*Yel. Mefo Harvester Dk. Yel. Chattanooga	Gold Mrs. Ross Tobon's Yellow	(Note 1)

*Varieties especially recommended for the period.

Note 1 We strongly recommend using earlier varieties delayed by lighting for this period. Results are far superior to use of normal December varieties. Best ones to use: Indianapolis. No shading is needed.

Note 2 Superior quality in both Pompons and Standards can be produced by black cloth shading later varieties to flower in this period and up to Oct. 15. See year round tables.

Disbuds For full details on disbuds, see page 53.

Ball preferred varieties for

NORMAL SEASON BLOOM

(Based on our greenhouse tests)

Flowering Date →	Sept. 15-30	Oct. 1-15	Oct. 16-30	Nov. 1-15	Nov. 16-30	Dec. 1-15	Dec. 16-30
PINK							
Pompons, Formal	(Note 2)	Jewell Adagio	*Pk. Dot Pinkette Jessie	*Masterpiece Pennant Bonnie	*Almega Minuet Ill. Roseglow	*Minstrel Heritage Alvoda	*Medallion Rose Me- dallion
Pompons, Decorative	(Note 2)	Betty Spellbound	*Reveille Carolyn Yosick	*Bluechip Pandora Taffeta Tempo	Pinky	*Riviera	*Defiance Pk. Kramer Alvoda
Singles (Daisies)	(Note 2)	Serenade	*Vogue Mirth Reward	*Nobility Soprano	*Hasegawa Pink Sal. Valencia Dk. Valencia	*Debutante	Rosalind Coronet
Anemones	(Note 2)	—	Ethrelda	*Freida Memorial Dk. Norma	Dk. L. I. Beauty Beautiful Lady	*Enchantress Dk. Pk. Supreme	—
Standards	(Note 2)	Pink Chief	(Note 2) Mary Garden (Spider)	*Ind. Pink Dk. Orchid Queen	*Ed. Seidewitz Helen Frick Thanks. Pink (reflex)	(Note 1)	(Note 1)
BRONZE							
Pompons, Formal	(Note 2)	Moonmaid Carmine Queen	*Navaho Br. Dot J. Stewart	*Beauregard Cassandra Climax	*Rusticon *Thelma Rubaiyat	*Br. Minstrel Debonair	—
Decorative Pompons	Admiral Witchery	Huntsman Calumet	*Firebird	*Jetfire Rubicon Chevron	Ill. Warpaint Br. Gold- smith	*Christmas Greeting Br. Riviera	Br. Kramer
Singles (Daisies)	(Note 2)	Rajah Bamboo	*Buckskin Sybil Talisman	*Buccaneer Mrs. Dewey Flameglow	*Festival Apricot Valencia	*Galaxy Christ. Star	*Merry- maker Poinsettia
Anemones	(Note 2)	—	—	The Titan Shalimar	*Olnura Yolanda Red Rolinda	*Red Enchantress Dazzler Br. Supreme	—
Standards	(Note 2)	(Note 2)	Hilda Bergen	*Detroit News Garnet King Ind. Bronze	*Gladys Pearson Oak Leaf Br. Peter John	Muto's Crimson	(Note 1)

*Varieties especially recommended for the period.

Note 1 We strongly recommend using earlier varieties delayed by lighting for this period. Results are far superior to use of normal December varieties. Best ones to use: Indianapolis. No shading is needed.

Note 2 Superior quality in both Pompons and Standards can be produced by black cloth shading later varieties to flower in this period and up to Oct. 15. See year round tables.

Disbuds For full details on disbuds, see page 53.

Year Round Mum Section

PRO

The overwhelming consideration in favor of year round Mum production is simply that most growers find them profitable. This in turn depends on market demand. To some extent there's no accounting for the long range changes in the public's tastes. It does seem though that the flower buying public is more critical of lasting quality than ever before—and Mums do keep well. Also, unlike most other cut flowers, Mums offer such a wide variety of sizes, flower types, and colors. This variety and contrast makes them more desirable from the designer's viewpoint than the other important cut flowers. How many of us, when taking flowers to our homes, get the request from our wives to "just bring some odds and ends—not all the same, please!"

Another critical factor in selling any flower is the grower's ability to produce the grades and types that are wanted—and at the **time** they are wanted. The year round Mum producer can vary his proportions of colors and types from week to week. To some extent he can build up his production for certain periods. Always he can plan his production—and know that what he plans for a certain week will be there for him. An unseasonal warm spell in April won't suddenly double his cut.

The year round greenhouse Mum grower can, in most sections of the country, be on the market 52 weeks out of the year with acceptable quality flowers. Some other cut flowers deteriorate so badly in quality during the summer that they more or less go off the market.

An interesting trend of the past year has been the increasing number of medium to large size retail growing ranges that have entered year round production. They do business every week of the year—and they like having Mums

always there as a sort of "backbone" of their cut flower supply. Typically they put a house in year round Poms—then later a house of Standards. Invariably they want lots of variety.

There are the purely management aspects of year round flowering that make it attractive. Biggest point—the uniform work load. No seasonal rush. Cuttings to plant and flowers to pick **every** week. Another point: space utilization. Benches are idle between crops an average of one to two weeks. On regular programs, a few days after a bench is cut out, cuttings arrive to replant it—no worry about what to "follow up" with.

Mums take less labor than most of the other major cut flower crops. They lend themselves to mechanization—automatic watering and feeding, single layer wire mesh support, direct benching of cuttings.

AND CON

So much for the advantages. What are the problems, shortcomings?

For one thing, year round production is not recommended where the grower is not equipped to maintain a minimum of 60°. A night or two of unusually severe weather that takes the house down below this won't hurt, but by and large it takes 60° to set those buds.

One of the factors that has kept year round flowering from being overdone is the investment necessary before the first flower is cut. For a rough figure, it takes about \$200 to buy black cloth, install lights, and plant up a bench 4 x 100 ft. The crop will pay, but like so many other things, it takes dollars to make dollars.

High summer temperatures under glass have created problems. As pointed out above, the fact that good Mums can



Silversmith at West Chicago, February. Using the newer kinds such as this one, Corsair, Snowcap, and applying correct temperatures, it is possible to produce up to a bunch per sq. ft. of excellent quality poms right thru the northern winter. Most important cultural point on the winter crop: keep them cool after buds show. Note plastic sheet hung to left of beds in flower. We are able to maintain 5° difference within the same house with this partition. In the photo, Carl Ball.

be produced under summer greenhouse conditions has been a real advantage to the year round grower. However, especially farther south, there have been problems of delay, and in extreme cases, failure to flower during occasional spells of very hot weather. Fortunately the new technique of evaporative cooling of greenhouses, when properly applied, can definitely solve this problem. Growers are adopting it rapidly.

Lastly, year round Mum production takes good growing. All the problems of soil management, disease and insect control, getting and training help, and marketing are there just the same as for any crop. Year round Mums aren't a cure-all for everyone's troubles. They do offer a real opportunity for those qualified to handle them.

* * *

ABOUT TEMPERATURES

As with most crops, Mums are quite critical as to temperature. First, on out of season crops, it is essential that the house be kept warm enough to insure bud set on all varieties. While many of the stubborn ones have been eliminated, **it is still a very definite requirement that out of season crops be held at 60° until buds are well formed—1/4 inch or so.** We advise against attempting year round flowering unless the grower has both boiler capacity and sufficient radiation for this. Watch especially for cold ends of your houses; install extra radiation here if needed. The one exception to this 60° requirement: a sateen covered bed as described below.

After buds are formed, the crop will finish with best quality (flower size, hardness of stem, keeping quality) if it is dropped (3° every 3 days) to 55. On most small to medium sized year round programs, it's almost impossible to do this because of the presence of half-grown crops that need 60° in the same house. Actually, with careful selection of varieties, very good quality can be produced on these one-temperature programs. However, where you are compromising between the high temperature needed to set buds on some beds, and lower temperature desired on the beds in color, it is of obvious importance that the 60° be held accurately. 65°, for example, will insure fine bud set, but will cause delay in flowering and will produce ruinously soft, small flowers on winter crops. Fifty-five degrees during bud set will almost insure blindness on most varieties.

Up to this point we've been talking night temperatures. Here's the way we set up our thermometer cards:

	Nights	Cloudy Days	Sunny Days
Up to the 1/4 inch bud stage:	60°	60°	65°
After buds form gradually drop to:	55°	55°	60°

Pot Mum temperatures: see page 75.

Be sure your thermometers are accurate (we check ours yearly). Also be sure they are down to or near the plant tops—not up 6 ft. high where they're easy to read. Check ends frequently.

Winter Delay

The past several winters, there have been occasional cases of delayed flowering, especially during December-January, and again in April. It is now definitely known that this is the result of too high temperatures during the flowering period. The Mum requires a **minimum** of 60° to set the bud, then must be kept **no warmer** than 60° to develop it. If winter crops are finished at 65° they will often just stall and delay, grow taller, compound—everything but open flowers.

From this it is obviously important in one house (one temperature) programs that the house be kept accurately at the

temperatures prescribed above. Running them up to 75° on sunny days, for example, can contribute to this winter stalling.

On our range, 60° means 58-60.

A winter Mum crop can't be hurried into flower by **raising** temperature. It will likely flower fastest at around 55-57°.

LIGHTS—WHY AND HOW

The Chrysanthemum is a "short day" plant. That means it will set buds when it is exposed to a short (12 hours or less) day. Mums naturally flower in the fall because the days are shorter.

With this in mind, it is apparent that a cutting planted in midwinter will promptly set bud—due to the very short day length. To delay this bud setting until sufficient stem length develops, we extend the length of the natural day with artificial light (technically, we shorten the night rather than lengthen the day). Buds will not form on Mums as long as the periods of uninterrupted darkness are not over 7 hours long. The tables that follow are designed to provide enough light under all conditions to prevent bud set.

How to Light (with separate reflectors)

	Watt	Spacing	Height above soil
One 4 ft. bed	60	Every 4 ft.	60 inches
Two 4 ft. beds	100	Every 6 ft.	60 inches
One row of lights			
Three 4 ft. beds	150	Every 9 ft.	60 inches
One row of lights			

Reflectors must be held up off the bulb. Built in reflector bulbs may be used. For a 20 ft. wide house, a single row of 300 watt reflector bulbs facing down at a 45° angle, spaced every 10 ft. will do it. Bulbs should be staggered on alternate sides of ventilators—not directly under because of rain damage to bulbs. Figure about 1 1/2 watts per square foot of ground covered. Indoor type bulbs may be used if covered with metal protectors to keep water out. Use flood, not spot bulbs.

It takes 7 foot candles to prevent bud formation.

On large installations, half the bed may be lighted before midnight, half after. This halves the demand cost.

230 volt lines reduce main sizes greatly.

HOURS OF LIGHT PER NIGHT

Latitude 35-45°	Latitude 25-30°
North of Charlotte, N. C.;	Dec. 1-Jan. 31.....4 1/2
Memphis, Tenn.; Bakers-	Feb. 1-284
field, Calif.	March 1-313
July 15-Aug. 1.....1	April 1-302 1/2
Aug. 1-312	May 1-311 1/2
Sept. 1-Oct. 31.....3	June 1-July 31.....1
Nov. 1-304	Aug. 1-312
Dec. 1-Jan. 31.....5	Sept. 1-302 1/2
Feb. 1-284	Oct. 1-313 1/2
March 1-April 30.....3	Nov. 1-304
May 1-312	

The above hours of light should be provided as near the middle of the night as possible. For example, if 4 hours of light are called for, light should be turned on from 10 P.M. till 2 A.M. If the lights were turned on from 6 P.M. till 9 P.M., there would be a period of darkness from 9 P.M. till 7 A.M. (in winter)—which would total 10 hours. The maximum allowable period of uninterrupted darkness to prevent buds is 7 hours.

Likewise, if half the beds are lighted before and half after midnight, be sure to apply both periods as near midnight as possible. For example, lights from 8 P.M. till midnight (4 hours) leaves a period of darkness from midnight till 7 A.M.—just within the allowable 7 hours.

YEAR ROUND MUM SECTION

SHADING DETAILS

Why do we shade?

The Chrysanthemum plant will set bud only if exposed to a short day (not over 12 hours)—and to a temperature of 60°. We of course, artificially shorten the day when necessary by means of black sateen.

For years it was common practice to apply sateen cloth in late afternoon—just before closing time. Often this meant that the first covers went on as early as 4 P.M.—which is 3 P.M. by standard time. Applying shade for longer than 12 hours per night is definitely harmful to the crop. First, if shade is put on at 4 P.M. during hot weather, it will become very warm under the covers, thus further aggravating the hot weather delay problem. Even during cooler periods, this mid-afternoon shading has a light reduction effect—much like carrying a heavy shade on the glass, only worse. Result: substantially reduced production, flower size, etc.

We therefore strongly recommend not applying shade till 6 or 6:30 P.M.—and leaving it on to provide 12 hours of darkness to all beds. It may cost overtime to get it done in the evening, but it will be worth it—in our experience.

Dates to Start and Stop Light and Shade

Latitude 25-35°

Response Group	Lights		Shade	
	Start in Fall	Stop in Spring	Start in Spring	Stop in Fall
7-8 Weeks	Continuous		April 8	Sept. 20
9-11 Weeks	Continuous		April 1	Oct. 1

Latitude 35-45°

North of Charlotte, N. C.; Memphis, Tenn.; Bakersfield, Calif.

Response Group	Lights		Shade	
	Start in Fall	Stop in Spring	Start in Spring	Stop in Fall
7-8 Weeks	July 15	May 30	April 7	Sept. 8
9-11 Weeks	Aug. 1	May 30	March 25	Oct. 1
12-14 Weeks	Aug. 25	May 30	Feb. 25	Oct. 20

INTERRUPTED LIGHTING

A means of opening up clubby sprays on Pompons, and doubling up Standards that tend to show center in winter.

Year round mum production at the Valley Greenhouses, Beaverton (Portland) Ore., Helen and Ted Deiss, owners, in the photo. Ted has been a top-notch tomato man, started recently with year round mums as a diversion.

Ted Trombla, market grower of Amesbury, Mass., shown with part of the Trombla planting of year round mums. Nice Indianapolis!

Mum man from Michigan, Frank Crownover of Hubert's Greenhouse, Albion. This year round planting is one of the increasing number that are operated in connection with a retail outlet. The steady cut from this mum planting provides a good "backbone" of cut flower production for their retail department.

Big trouble so far seems that more or less each variety must be "interrupted" on a schedule worked out to suit that variety. Under commercial conditions where half a dozen or more varieties are grown under the same lighting schedule, it is generally impractical to interrupt—for the reason outlined above. Interrupting January-February Standards (especially Indianapolis) comes the nearest to being a practical deal as any attempts we have made thus far—but we feel we need more experience before making definite suggestions. Write if interested.

COLORS AND VARIETIES

First, what percent of Pompons and Standards?

The Southwest and California lean more to Standards at all seasons. For Midwest and East:

	Jan.-April	May-Sept.	Oct.-Dec.
% Pompons	60	70	60
% Standards	40	30	40

Color percentage of Pompons

	Jan.-March	April-May	June	July-Aug.	Sept.-Oct.	Nov.-Dec.
% White	50	55	60	45	35	40
% Yellow	30	30	30	45	35	25
% Pink	15	15	10	10	5	10
% Bronze	5	—	—	—	25	25

Note: Southern markets seem to prefer less white.

Color percentages of Standards

	Jan.-March	April-May	June	July-Aug.	Sept.-Oct.	Nov.-Dec.
% White	60	55	50	55	35	40
% Yellow	30	30	45	45	40	30
% Pink	10	15	5	—	5	10
% Bronze	—	—	—	—	20	20

Varieties—hundreds of 'em!

Certainly no room to discuss them here. We've flowered over 350 in our continuous flowering test program. You'll find our recommendations for each season in the tables starting on page 60. Also, if you're going through Chicago, stop in and see the new ones in our trials—at any period.





Cooling with pads and fans promises to solve the summer heat delay problem on Mums. We held our cooled house 10-12° below outside temperatures and with a light shade. Pictured above: one of the fans used, Lou Kovarik of Ball's on the right, D. J. Boonstra of Public Service Co. on left. Full details on cooling in "Greenhouse Cooling" booklet—free on request.

SINGLE STEM OR PINCH?

Where time permits, we recommend pinching fall or normal crops. While there is some advantage in spray formation, generally improved and more even growth, we don't feel these improvements warrant the added cutting cost of single stem crops.

Most year round or continuous flowering programs are operated on a single stem basis. Main reason: it enables the grower to realize an extra crop a year from about half the benches on a program.

Even beyond this, though, there is a certain vigor and quality of growth on the direct benched unpinched crop that's hard to get where pinching is practiced. This is especially apparent on winter-spring crops.

CONTINUOUS FLOWERING SCHEDULES

Actually most off-season Mum growing is done on so-called year round flowering programs. A given area, usually not less than 6-8 benches, is put on a continuous rotation, each bench producing 3 crops during the year. Thus, an 8 bench house would produce 24 benches of flowers each 12 months. The advantages of steady cut, steady return, and even work load are obvious.

Because such programs are nearly always tailor-made to fit local conditions, none are included here. If interested, write our Mum Planning Dept. for details. (See page 1).

ABOUT SPACING

You sometimes hear a grower complain that his Pompon sprays are too heavy—even as little as four stems make too big a bunch. The retailers complain at as little as four stems per bunch—even though they may get a giant head of flowers. This fellow is simply allowing too much space per stem. On Standards it's the same story—except that too wide spacing will produce a lot of 8 inch blooms that are lovely to look at—but bring little if any more on the market than 5 inch ones. They're spaced too far apart!

What is correct spacing? That depends on three things:

1. Time of year—the high sunshine conditions of summer and early fall make it possible to space considerably closer than midwinter, yet retain uniformity and quality.

2. One stem per plant—or two or three? It has been our experience that you can get more stems per square foot where crops are grown single stem than you can where three

or four stems are grown on each plant. It's logical when you stop to realize that under single stem culture each stem has a direct private line to food and water.

3. Difference between growers—a man who is doing a top-notch job of soil management, feeding, watering, etc. can get by with somewhat closer spacing.

Our recommendations for year round flowering under reasonably favorable conditions (for no pinch culture):

Crops to Flower	Spacing	Sq. Inches per Stem
Jan. 1-March 15	7 x 4 in.	28 sq. in.
March 15-June 1	6 x 4 in.	24 sq. in.
June 1-Oct. 15	6 x 4 in.	24 sq. in.
(Note: Where a medium weight spray of Pompons is wanted and with more production per bed, many growers go to 5 x 4 in. especially from July through September.)		
Oct. 15-Jan. 1	6 x 4 in.	24 sq. in.

Two stems per plant can be grown on roughly the same area per stem as one. Example: for late summer Pompons we recommend 5 x 8 in. for two per plant (20 sq. in. per stem) or if single stem, space 5 x 4 in.—also 20 sq. inches. Where three stems are grown per plant, add roughly 10% to the amount of bench area per stem. Reason: three stems sharing the same root system!

HEAT DELAY

Unusually severe heat the past summer, especially in the South and Southwest has caused much trouble with summer crops of Mums. The crop **grows** normally and well in spite of severe heat and will even set buds. However, greenhouse temperatures running 105-110° and higher, may **delay** bud development several weeks or more. In severe cases, flowers may be crippled—or buds may never even open.

Means are being developed to cool greenhouses enough to overcome this problem. For details on this write for our pamphlet on Greenhouse Cooling.

WE ACKNOWLEDGE

With thanks the substantial help afforded us in preparation of this 1956 BALL MUM GUIDE both by our floriculture schools, and by the major propagators.



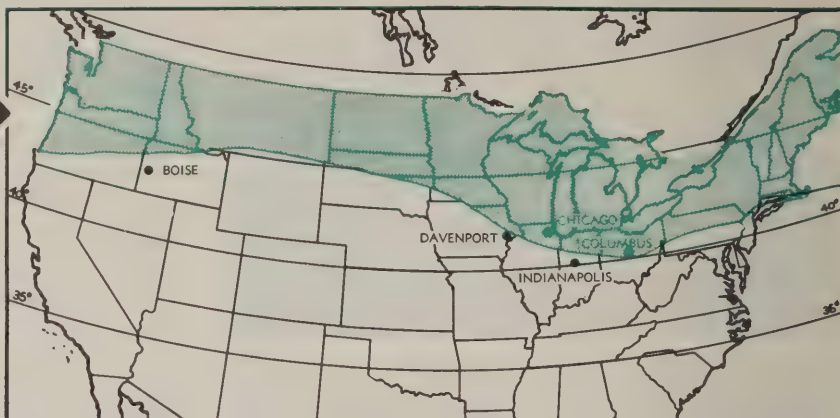
Mums in Florida—pictured above is the crop grown by Cornelius Colin (center), Walter Rensink of Ft. Pierce, Jack McCluskie, Ball man, on the left. Note radiant heaters for frost protection.

Year Round Flowering Schedules

**FOR GROWERS
IN THIS AREA**

ZONE 1

USE SCHEDULES
BELOW (Thru page 64)



Throughout these tables, varieties are listed in order of preference for the period concerned. The one at the head of the list in each color for each date is generally the "bread and butter" variety for that period.

Plant Date ^a	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
1956							
Dec. 22	Jan. 12	Dec. 22-Feb. 22	Feb. 23	Mar. 15	Note 1	10	May 3
Dec. 29	Jan. 19	Dec. 29-Feb. 29	Mar. 1	Mar. 15	Note 1	10	May 10
Jan. 12	Feb. 2	Jan. 12-Mar. 7	Mar. 8	Mar. 15	Note 1	10	May 17
Jan. 19	Feb. 9	Jan. 19-Mar. 14	Mar. 15	Mar. 15	Note 1	10	May 24
Jan. 26	Feb. 16	Jan. 26-Mar. 21	Mar. 22	Mar. 22	Note 1	10	May 31

VARIETIES for above schedules

Standards

White

Ind. White
Queen's Lace
Wh. Mary Garden

Pink

Lav. Queen
Ind. Pink
Mary Garden

Yellow

Imp. Ind. Yellow
Ind. Yellow
Gold Lace

Bronze

(not recommended
for this period.)

Pompons

White

Whitetop
Keepsake
Shasta
Ill. Igloo
Ill. Snowdrift
Pinocchio
Pacesetter

Pink

Portrait
Bluechip
Pennant
Reward

Yellow

Mary Hall
Yel. Shasta
Creampuff
Yel. Ill. Igloo
Ill. Goldcup
Aztec
Starbright

Bronze

Paradise
Talisman
Rubicon



Indianapolis Mums at West Chicago—part of our year round production. Vince Hilger of G. J. B. Inc. in the photo.

Plant Date ^a	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Feb. 9	Mar. 1	Feb. 9-Mar. 28	Mar. 29	Mar. 29	Note 1	10	June 7
Feb. 16	Mar. 8	Feb. 16-Apr. 4	Apr. 5	Apr. 5	Note 1	10	June 14
Mar. 1	Mar. 22	Mar. 1-Apr. 11	Apr. 12	Apr. 12	Note 1	10	June 21
Mar. 8	Mar. 29	Mar. 8-Apr. 18	Apr. 19	Apr. 19	Note 1	10	June 28
Mar. 15	Apr. 5	Mar. 15-Apr. 25	Apr. 26	Apr. 26	Note 1	10	July 5
Mar. 22	Apr. 12	Mar. 22-May 2	May 3	May 3	Note 1	10	July 12

VARIETIES FOR ABOVE SCHEDULE ON NEXT PAGE

FOR GROWERS IN ZONE 1

VARIETIES for schedules at bottom of page 60

Standards

White

Gt. Betsy Ross
(after June 15)
Queen's Lace
Ind. White
(thru June)

Yellow

Good News
Gold Lace
Yel. Curly Spider
Imp. Ind. Yellow

Pink

Dk. Orch. Queen
Mary Garden

Bronze

(not recommended
for this period.)

Warning: pink and bronze
standards and poms will fade
badly at high temperatures.

Pompons

White

Whitetop
Keepsake
Shasta (till
June 30)
Ill. Igloo
Vesta
Pinocchio
Ill. Snowdrift
Pacesetter

Yellow

Mary Hall
Yel. Shasta (till
June 30)
Golden Herald
(after June 15)
Sunup (after July 1)
Yel. Ill. Igloo
Yel. Beaugard
Aztec
Starbright

Pink

Bluechip
Reward
Portrait

Bronze

Or. Beaugard
Chevron
Gaiety
Talisman
Beaugard

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	Mar. 29	Apr. 19	Mar. 29-May 16	May 17	May 17	Note 1	9	July 19
Standards	Mar. 29	Apr. 19	Mar. 29-May 9	May 10	May 10	Note 1	10	July 19
Pompons	Apr. 5	Apr. 26	Apr. 5-May 23	May 24	May 24	Note 1	9	July 26
Standards	Apr. 5	Apr. 26	Apr. 5-May 16	May 17	May 17	Note 1	10	July 26
Pompons	Apr. 19	May 3	Apr. 19-May 30	May 31	May 31	Note 1	9	Aug. 2
Standards	Apr. 19	May 3	Apr. 19-May 23	May 24	May 24	Note 1	10	Aug. 2
Pompons	Apr. 26	May 10	Apr. 26-May 31	June 1	June 7	Note 1	9	Aug. 9
Standards	Apr. 26	May 10	Apr. 26-May 30	May 31	May 31	Note 1	10	Aug. 9
Pompons	May 3	May 17	May 3-May 31	June 1	June 14	Note 1	9	Aug. 16
Standards	May 3	May 17	May 3-May 31	June 1	June 7	Note 1	10	Aug. 16
Pompons	May 10	May 24	May 10-May 31	June 1	June 21	Note 1	9	Aug. 23
Standards	May 10	May 24	May 10-May 31	June 1	June 14	Note 1	10	Aug. 23
Pompons	May 17	May 31	May 17-May 31	June 1	June 28	Note 1	9	Aug. 30
Standards	May 17	May 31	May 17-May 31	June 1	June 21	Note 1	10	Aug. 30

VARIETIES for above schedules

Standards

White

Gt. Betsy Ross
Ind. White
(Note 3)

Yellow

Good News
Dk. Ind. Yellow
(Note 3)
Imp. Ind. Yellow
(Note 3)

Pink

Dk. Orch. Queen

Bronze

Detroit News

Warning: pink and bronze
standards and poms will fade
badly at high temperatures.

Pompons

White

Keepsake
Popcorn
Vesta
Halo
Pinocchio
Silver Cloud

Yellow

Gold Coast
Golden Herald
Aztec
Yel. Halo
Starbright
Sunup

Pink

Bluechip
Reward
Vogue

Bronze

Jetfire
Gaiety
Buckskin
Hilarity
Chevron

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
	May 24	June 7	May 24-May 31	June 1	June 28	Note 1	10	Sept. 6
	May 31	June 14	No	—	July 5	Note 1	10	Sept. 13
	May 31	June 14	No	—	July 12	Note 1	10	Sept. 20
	June 7	June 21	No	—	July 19	Note 1	10	Sept. 27
	June 14	June 28	No	—	July 26	Sept. 25	10	Oct. 4
	June 21	July 5	No	—	Aug. 2	Sept. 25	10	Oct. 11

VARIETIES FOR ABOVE SCHEDULE ON NEXT PAGE

1. Stop shade on Pompons when buds show color; stop shade on October through May Standards when bud is size of a nickel; stop shade on June through September Standards when bud is taken.
2. For single stemmed crops, plant cuttings on pinch date.
3. In sections where summer heat is severe, Gt. Betsy Ross and Good News are recommended.

FOR GROWERS IN ZONE 1

VARIETIES for schedules at bottom of page 61.

Standards

White

Ind. White

Yellow

Ind. Yellow
Good News

Pink

Ind. Pink

Bronze

Dk. Ind. Bronze
Ind. Bronze
Detroit News

Pompons

White

Whitetop
Shasta (after
Sept. 16)
Ill. Igloo
Halo
Ill. Snowdrift
Pinocchio
Silver Cloud

Yellow

Mary Hall
Yel. Shasta
(after Sept. 16)
Yel. Beauregard
Yel. Ill. Igloo
Golden Herald
Aztec

Pink

Bluechip
Portrait
Reward
Pandora
(Oct. 1-15)

Bronze

Beauregard
Jettfire
Or. Beauregard
Chevron
Rubicon
Gaiety

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	June 28	July 12	No	—	Aug. 2	Sept. 30	11	Oct. 18
Standards	June 28	July 12	Aug. 1-Aug. 8	Aug. 9	Aug. 9	Sept. 25	10	Oct. 18
Pompons	July 5	July 19	Aug. 1-Aug. 8	Aug. 9	Aug. 9	Sept. 30	11	Oct. 25
Standards	July 5	July 19	Aug. 1-Aug. 15	Aug. 16	Aug. 16	Sept. 25	10	Oct. 25
Pompons	July 12	July 26	Aug. 1-Aug. 15	Aug. 16	Aug. 16	Sept. 30	11	Nov. 1
Standards	July 12	July 26	Aug. 1-Aug. 22	Aug. 23	Aug. 23	Sept. 25	10	Nov. 1
Pompons	July 19	Aug. 2	Aug. 1-Aug. 22	Aug. 23	Aug. 23	Sept. 30	11	Nov. 8
Standards	July 19	Aug. 2	Aug. 1-Aug. 29	Aug. 30	Aug. 30	Sept. 25	10	Nov. 8
Pompons	July 26	Aug. 9	Aug. 1-Aug. 29	Aug. 30	Aug. 30	Sept. 30	11	Nov. 15
Standards	July 26	Aug. 9	Aug. 1-Sept. 5	Sept. 6	Sept. 6	Sept. 25	10	Nov. 15
Pompons	Aug. 2	Aug. 16	Aug. 2-Sept. 5	Sept. 6	Sept. 6	Sept. 30	11	Nov. 22
Standards	Aug. 2	Aug. 16	Aug. 2-Sept. 12	Sept. 13	Sept. 13	Sept. 25	10	Nov. 22
Pompons	Aug. 9	Aug. 23	Aug. 9-Sept. 12	Sept. 13	Sept. 13	Sept. 30	11	Nov. 29
Standards	Aug. 9	Aug. 23	Aug. 9-Sept. 19	Sept. 20	Sept. 20	Sept. 25	10	Nov. 29
Pompons	Aug. 9	Aug. 23	Aug. 9-Sept. 19	Sept. 20	Sept. 20	Sept. 30	11	Dec. 6
Standards	Aug. 9	Aug. 23	Aug. 9-Sept. 26	Sept. 27	No	—	10	Dec. 6
Pompons	Aug. 16	Aug. 30	Aug. 16-Sept. 26	Sept. 27	Sept. 27	Sept. 30	11	Dec. 13
Standards	Aug. 16	Aug. 30	Aug. 16-Oct. 3	Oct. 4	No	—	10	Dec. 13

VARIETIES for above schedules

Standards

White

Ind. White
Crystal Queen

Yellow

Imp. Ind. Yellow
Ind. Yellow
Good News

Pink

Ind. Pink
Lav. Queen

Bronze

Dk. Ind. Bronze
Ind. Bronze
Detroit News
Mrs. Roy

Pompons

White

Paramount
Shasta
Little America
(Nov. Only)
Encore (till
Oct. 31)
Whitetop
Ill. Igloo
Ill. Snowdrift

Yellow

Golden Chord
Klondike (after
Nov. 1)
Yellow Shasta
Pippin
Yel. Paramount
Yel. Ill. Igloo
Yel. Beauregard

Pink

Almega
Soprano
Portrait
Pennant
Masterpiece
(after Nov. 15)

Bronze

Rusticon
Rubicon
Paragon
Thelma
Beauregard
Mrs. Dewey
(after Nov. 1)

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	Aug. 16	Aug. 30	Aug. 16-Sept. 12	Sept. 13	Sept. 13	Oct. 20	14	Dec. 20
Standards	Aug. 16	Aug. 30	Aug. 16-Oct. 10	Oct. 11	No	—	10	Dec. 20
Pompons	Aug. 23	Sept. 6	Aug. 23-Sept. 19	Sept. 20	Sept. 20	Oct. 20	14	Dec. 27
Standards	Aug. 23	Sept. 6	Aug. 23-Oct. 17	Oct. 18	No	—	10	Dec. 27
Pompons	Aug. 30	Sept. 13	Aug. 30-Sept. 26	Sept. 27	Sept. 27	Oct. 20	14	Jan. 3, '57
Standards	Aug. 30	Sept. 13	Aug. 30-Oct. 24	Oct. 25	No	—	10	Jan. 3
Pompons	Sept. 6	Sept. 20	Sept. 6-Oct. 3	Oct. 4	Oct. 4	Oct. 20	14	Jan. 10
Standards	Sept. 6	Sept. 20	Sept. 6-Oct. 31	Nov. 1	No	—	10	Jan. 10

VARIETIES FOR ABOVE SCHEDULE ON NEXT PAGE

2. For single stemmed crops, plant cuttings on pinch date.

FOR GROWERS IN ZONE 1

VARIETIES for schedules at bottom of page 62.

Standards

White

Ind. White
Crystal Queen

Yellow

Imp. Ind. Yellow
Ind. Yellow
Yel. Queen

Pink

Ind. Pink
Lav. Queen

Bronze

Ind. Bronze
Mrs. Roy
Garnet King

Pompons

White

Snowcap
Snowcrest

Yellow

Golden
Anniversary
Cinderella
Corsair

Pink

Debutante
Argyle
Alvoda
Riviera

Bronze

Merrymaker
Christ. Greeting
Br. Riviera

TEMPERATURES

The pompon varieties recommended for the above period—and for flowering up to March 28—are in most cases "Thermonegatives" under the Cornell classification. They require the usual 58-60° minimum to set buds but also **must not be grown above 60° after buds appear.** Even several degrees above 60° at night, or raising sunny day temperatures to 70-75° will often seriously delay the opening of flower buds on these pompons. Full details on this problem in GROWER TALKS, April 1955, page 7. See page 57 this guide for definite temperature recommendations.

	Plant Date ^a	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	Sept. 6	Sept. 20	Sept. 6-Oct. 10	Oct. 11	Oct. 11	Oct. 20	14	Jan. 17
Standards	Sept. 6	Sept. 20	Sept. 6-Oct. 31	Nov. 1	No	—	11	Jan. 17
Pompons	Sept. 13	Sept. 27	Sept. 13-Oct. 17	Oct. 18	Oct. 18	Oct. 20	14	Jan. 24
Standards	Sept. 13	Sept. 27	Sept. 13-Nov. 7	Nov. 8	No	—	11	Jan. 24
Pompons	Sept. 20	Oct. 4	Sept. 20-Oct. 24	Oct. 25	No	—	14	Jan. 31
Standards	Sept. 20	Oct. 4	Sept. 20-Nov. 14	Nov. 15	No	—	11	Jan. 31
Pompons	Sept. 27	Oct. 11	Sept. 27-Oct. 31	Nov. 1	No	—	14	Feb. 7
Standards	Sept. 27	Oct. 11	Sept. 27-Nov. 21	Nov. 22	No	—	11	Feb. 7
Pompons	Oct. 4	Oct. 18	Oct. 4-Nov. 7	Nov. 8	No	—	14	Feb. 14
Standards	Oct. 4	Oct. 18	Oct. 4-Nov. 28	Nov. 29	No	—	11	Feb. 14
Pompons	Oct. 11	Oct. 25	Oct. 11-Nov. 14	Nov. 15	No	—	14	Feb. 21
Standards	Oct. 11	Oct. 25	Oct. 11-Dec. 5	Dec. 6	No	—	11	Feb. 21
Pompons	Oct. 18	Nov. 1	Oct. 18-Nov. 21	Nov. 22	No	—	14	Feb. 28
Standards	Oct. 18	Nov. 1	Oct. 18-Dec. 12	Dec. 13	No	—	11	Feb. 28

VARIETIES for above schedules

Standards

White

Mefo
Ind. White

Yellow

Yel. Mefo
Imp. Ind. Yellow
Ind. Yellow
Cr. Mefo

Pink

Ind. Pink

Bronze

Ind. Bronze
Dk. Ind. Bronze

Pompons

White

Silversmith
Snowcrest
Snowcap (after Feb. 1)
Satellite

Yellow

Corsair
Cinderella

Pink

Debutante
Argyle
Riviera
Alvoda

Bronze

Merrymaker
Br. Riviera

	Plant Date ^a	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	Oct. 18	Nov. 1	Oct. 18-Dec. 5	Dec. 6	No	—	13	Mar. 7
Standards	Oct. 18	Nov. 1	Oct. 18-Dec. 19	Dec. 20	No	—	11	Mar. 7
Pompons	Oct. 25	Nov. 8	Oct. 25-Dec. 12	Dec. 13	No	—	13	Mar. 14
Standards	Oct. 25	Nov. 8	Oct. 25-Dec. 26	Dec. 27	No	—	11	Mar. 14

VARIETIES for above schedules

Standards

White

Mefo
Ind. White

Yellow

Yel. Mefo
Ind. Yellow
Cr. Mefo

Pink

Ind. Pink

Bronze

Ind. Bronze
Dk. Ind. Bronze

Pompons

White

Acclaim
Satellite

Yellow

Corsair
Yel. Acclaim
Highlander
Omega

Pink

Heritage
Argyle
Debutante

Bronze

Galaxy

FOR GROWERS IN ZONE 1

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	Nov. 1	Nov. 15	Nov. 1-Dec. 19	Dec. 20	Mar. 1	Note 1	13	Mar. 21
Standards	Nov. 1	Nov. 15	Nov. 1-Jan. 9	Jan. 10	No	—	10	Mar. 21
Pompons	Nov. 8	Nov. 22	Nov. 8-Dec. 26	Dec. 27	Mar. 1	Note 1	13	Mar. 28
Standards	Nov. 8	Nov. 22	Nov. 8-Jan. 16	Jan. 17	No	—	10	Mar. 28

VARIETIES for above schedules

Standards

White

Ind. White
Queen's Lace
Wh. Mary Garden

Yellow

Imp. Ind. Yellow
Ind. Yellow
Gold Lace

Pink

Ind. Pink
Mary Garden

Bronze

Dk. Ind. Bronze
Ind. Bronze

Pompons

White

Acclaim
Satellite

Yellow

Corsair
Yel. Acclaim
Highlander
Omega

Pink

Heritage
Argyle
Debutante

Bronze

Galaxy

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	Nov. 15	Nov. 29	Nov. 15-Jan. 16	Jan. 17	Mar. 15	Note 1	11	Apr. 4
Standards	Nov. 15	Nov. 29	Nov. 15-Jan. 23	Jan. 24	Mar. 15	Note 1	10	Apr. 4
Pompons	Nov. 15	Dec. 6	Nov. 15-Jan. 23	Jan. 24	Mar. 15	Note 1	11	Apr. 11
Standards	Nov. 15	Dec. 6	Nov. 15-Jan. 30	Jan. 31	Mar. 15	Note 1	10	Apr. 11

VARIETIES for above schedules

Standards

White

Ind. White
Queen's Lace
Wh. Mary Garden

Yellow

Imp. Ind. Yellow
Ind. Yellow
Gold Lace

Pink

Ind. Pink
Mary Garden
Lav. Queen

Bronze

Dk. Ind. Bronze
Ind. Bronze

Pompons

White

Whitetop
Shasta
Paramount
Ill. Igloo
Belray

Yellow

Yel. Shasta
Yel. Paramount
Klondike
Pippin
Forty-Niner
Yel. Ill. Igloo

Pink

Masterpiece
Almega
Portrait
Pennant

Bronze

Rusticon

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
	Nov. 29	Dec. 20	Nov. 29-Feb. 6	Feb. 7	Mar. 15	Note 1	10	Apr. 18
	Dec. 6	Dec. 27	Dec. 6-Feb. 13	Feb. 14	Mar. 15	Note 1	10	Apr. 25
	Dec. 27	Jan. 1, '57	Dec. 27-Feb. 20	Feb. 21	Mar. 15	Note 1	10	May 2
	Jan. 3, '57	Jan. 17	Jan. 3-Feb. 27	Feb. 28	Mar. 15	Note 1	10	May 9
	Jan. 17	Jan. 31	Jan. 17-Mar. 6	Mar. 7	Mar. 15	Note 1	10	May 16
	Jan. 24	Feb. 7	Jan. 24-Mar. 13	Mar. 14	Mar. 15	Note 1	10	May 23
	Jan. 31	Feb. 14	Jan. 31-Mar. 20	Mar. 21	Mar. 21	Note 1	10	May 30

VARIETIES for above schedules

Standards

White

Ind. White
Queen's Lace
Wh. Mary Garden

Yellow

Imp. Ind. Yellow
Ind. Yellow
Gold Lace

Pink

Lav. Queen
Mary Garden

Bronze

(not recommended
at this time.)

Pompons

White

Whitetop
Keepsake (after May 1)
Shasta
Ill. Igloo
Ill. Snowdrift
Pinocchio
Pacesetter

Yellow

Yel. Shasta
Mary Hall (after May 1)
Creampuff
Yel. Ill. Igloo
Aztec
Starbright
Yel. Beauregard

Pink

Masterpiece
(till May 1)
Portrait
Bluechip
Pennant
(till May 15)
Reward

Bronze

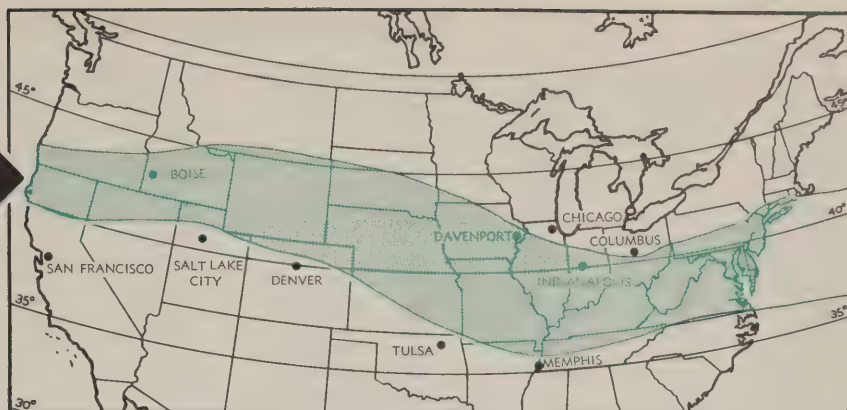
Paradise
Talisman

1. Stop shade on Pompons when buds show color; stop shade on October through May Standards when bud is size of a nickel; stop shade on June through September Standards when bud is taken.

**FOR GROWERS
IN THIS AREA**

ZONE 2

USE SCHEDULES
BELOW (Thru page 69).



Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Dec. 15	Jan. 5	Dec. 15-Feb. 15	Feb. 16	Mar. 15	Note 1	10	Apr. 26
Dec. 29	Jan. 19	Dec. 29-Feb. 22	Feb. 23	Mar. 15	Note 1	10	May 3
Jan. 5	Jan. 26	Jan. 5-Feb. 29	Mar. 1	Mar. 15	Note 1	10	May 10
Jan. 19	Feb. 9	Jan. 19-Mar. 7	Mar. 8	Mar. 15	Note 1	10	May 17
Jan. 26	Feb. 16	Jan. 26-Mar. 14	Mar. 15	Mar. 15	Note 1	10	May 24
Feb. 2	Feb. 23	Feb. 2-Mar. 21	Mar. 22	Mar. 22	Note 1	10	May 31

VARIETIES for above schedules

Standards

White

Ind. White
Queen's Lace
Wh. Mary Garden

Yellow

Imp. Ind. Yellow
Ind. Yellow
Gold Lace

Pink

Lav. Queen
Ind. Pink
Mary Garden

Bronze

(not recommended
for this period)

Pompons

White

Whitetop
Keepsake
Shasta
Ill. Igloo
Ill. Snowdrift
Pinocchio
Pacesetter

Yellow

Mary Hall
Yel. Shasta
Creampuff
Yel. Ill. Igloo
Ill. Goldcup
Aztec
Starbright

Pink

Portrait
Bluechip
Pennant
(till May 15)
Reward

Bronze

Paradise
Talisman

Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Feb. 16	Mar. 8	Feb. 16-Mar. 28	Mar. 29	Mar. 29	Note 1	10	June 7
Feb. 23	Mar. 15	Feb. 23-Apr. 4	Apr. 5	Apr. 5	Note 1	10	June 14
Mar. 1	Mar. 22	Mar. 1-Apr. 11	Apr. 12	Apr. 12	Note 1	10	June 21
Mar. 8	Mar. 29	Mar. 8-Apr. 18	Apr. 19	Apr. 19	Note 1	10	June 28
Mar. 15	Apr. 5	Mar. 15-Apr. 25	Apr. 26	Apr. 26	Note 1	10	July 5
Mar. 22	Apr. 12	Mar. 22-May 2	May 3	May 3	Note 1	10	July 12

VARIETIES for above schedules

Standards

White

Get. Betsy Ross
Queen's Lace
Ind. White (till
June 15)

Yellow

Good News
Gold Lace
Yel. Curly Spider
Imp. Ind. Yellow
(till June 15)

Pink

Lav. Queen
Mary Garden

Bronze

(not recommended
for this period.)

**Warning: pink and bronze
standards and pomps will fade
badly at high temperatures.**

Pompons

White

Whitetop
Keepsake
Shasta (till
June 30
Ill. Igloo
Vesta
Pinocchio
Ill. Snowdrift
Pacesetter

Yellow

Mary Hall
Yel. Shasta (till
June 30)
Golden Herald
(after June 15)
Sunup (after July 1)
Yel. Ill. Igloo
Yel. Beaugard
Aztec
Starbright

Pink

Bluechip
Reward
Portrait

Bronze

Or. Beaugard
Chevron
Gaiety
Talisman
Beaugard

2. For single stemmed crops, plant cuttings on pinch date.

FOR GROWERS IN ZONE 2

	Plant Date ^a	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	Mar. 29	Apr. 19	Mar. 29-May 16	May 17	May 17	Note 1	9	July 19
Standards	Mar. 29	Apr. 19	Mar. 29-May 9	May 10	May 10	Note 1	10	July 19
Pompons	Apr. 5	Apr. 26	Apr. 5-May 23	May 24	May 24	Note 1	9	July 26
Standards	Apr. 5	Apr. 26	Apr. 5-May 16	May 17	May 17	Note 1	10	July 26
Pompons	Apr. 12	May 3	Apr. 12-May 30	May 31	May 31	Note 1	9	Aug. 2
Standards	Apr. 12	May 3	Apr. 12-May 23	May 24	May 24	Note 1	10	Aug. 2
Pompons	Apr. 26	May 10	Apr. 26-May 31	June 1	June 7	Note 1	9	Aug. 9
Standards	Apr. 26	May 10	Apr. 26-May 30	May 31	May 31	Note 1	10	Aug. 9
Pompons	May 3	May 17	May 3-May 31	June 1	June 14	Note 1	9	Aug. 16
Standards	May 3	May 17	May 3-May 31	June 1	June 7	Note 1	10	Aug. 16
Pompons	May 10	May 24	May 10-May 31	June 1	June 21	Note 1	9	Aug. 23
Standards	May 10	May 24	May 10-May 31	June 1	June 14	Note 1	10	Aug. 23
Pompons	May 17	May 31	May 17-May 31	June 1	June 28	Note 1	9	Aug. 30
Standards	May 17	May 31	May 17-May 31	June 1	June 21	Note 1	10	Aug. 30

VARIETIES for above schedules

Standards

White

Gt. Betsy Ross

Yellow

Good News

Pink

Lav. Queen

Bronze

Detroit News

Pompons

White

Keepsake

Popcorn

Vesta

Halo

Pinocchio

Silver Cloud

Yellow

Gold Coast

Golden Herald

Aztec

Sunup

Starbright

Yel. Halo

Pink

Bluechip

Reward

Vogue

Warning: pink and bronze standards and poms will fade badly at high temperatures.

Bronze

Jetfire

Gaiety

Buckskin

Hilarity

Chevron

	Plant Date ^a	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
	May 24	June 7	May 24-May 31	June 1	June 28	Note 1	10	Sept. 6
	May 31	June 14	No	—	July 5	Note 1	10	Sept. 13
	June 7	June 21	No	—	July 12	Note 1	10	Sept. 20
	June 14	June 28	July 15-July 18	July 19	July 19	Note 1	10	Sept. 27
	June 21	July 5	July 15-July 25	July 26	July 26	Sept. 25	10	Oct. 4
	June 28	July 12	July 15-Aug. 1	Aug. 2	Aug. 2	Sept. 25	10	Oct. 11

VARIETIES for above schedules

Standards

White

Ind. White

Yellow

Ind. Yellow

Good News

Pink

Ind. Pink

Bronze

Dk. Ind. Bronze

Ind. Bronze

Detroit News

Pompons

White

Whitetop

Songster

Shasta (after

Sept. 16)

Ill. Igloo

Ill. Snowdrift

Halo

Pinocchio

Silver Cloud

Yellow

Mary Hall

Yel. Beauregard

Yel. Ill. Igloo

Golden Herald

Aztec

Yel. Shasta (after

Sept. 16)

Pink

Bluechip

Portrait

Reward

Pandora (Oct. 1-15)

Bronze

Beauregard

Jetfire

Or. Beauregard

Chevron

Rubicon

Gaiety

	Plant Date ^a	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	July 5	July 19	July 15-Aug. 1	Aug. 2	Aug. 2	Sept. 30	11	Oct. 18
Standards	July 5	July 19	July 15-Aug. 8	Aug. 9	Aug. 9	Sept. 25	10	Oct. 18
Pompons	July 12	July 26	July 15-Aug. 8	Aug. 9	Aug. 9	Sept. 30	11	Oct. 25
Standards	July 12	July 26	July 15-Aug. 15	Aug. 16	Aug. 16	Sept. 25	10	Oct. 25
Pompons	July 19	Aug. 2	July 19-Aug. 15	Aug. 16	Aug. 16	Sept. 30	11	Nov. 1
Standards	July 19	Aug. 2	July 19-Aug. 22	Aug. 23	Aug. 23	Sept. 25	10	Nov. 1
Pompons	July 26	Aug. 9	July 26-Aug. 22	Aug. 23	Aug. 23	Sept. 30	11	Nov. 8
Standards	July 26	Aug. 9	July 26-Aug. 29	Aug. 30	Aug. 30	Sept. 25	10	Nov. 8
Pompons	Aug. 2	Aug. 16	Aug. 2-Aug. 29	Aug. 30	Aug. 30	Sept. 30	11	Nov. 15
Standards	Aug. 2	Aug. 16	Aug. 2-Sept. 5	Sept. 6	Sept. 6	Sept. 25	10	Nov. 15
Pompons	Aug. 9	Aug. 23	Aug. 9-Sept. 5	Sept. 6	Sept. 6	Sept. 30	11	Nov. 22
Standards	Aug. 9	Aug. 23	Aug. 9-Sept. 12	Sept. 13	Sept. 13	Sept. 25	10	Nov. 22

BALANCE OF SCHEDULES AND VARIETIES NEXT PAGE

FOR GROWERS IN ZONE 2

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	Aug. 16	Aug. 30	Aug. 16-Sept. 12	Sept. 13	Sept. 13	Sept. 30	11	Nov. 29
Standards	Aug. 16	Aug. 30	Aug. 16-Sept. 19	Sept. 20	Sept. 20	Sept. 25	10	Nov. 29
Pompons	Aug. 16	Aug. 30	Aug. 16-Sept. 19	Sept. 20	Sept. 20	Sept. 30	11	Dec. 6
Standards	Aug. 16	Aug. 30	Aug. 16-Sept. 26	Sept. 27	No	—	10	Dec. 6
Pompons	Aug. 23	Sept. 6	Aug. 23-Sept. 26	Sept. 27	Sept. 27	Sept. 30	11	Dec. 13
Standards	Aug. 23	Sept. 6	Aug. 23-Oct. 3	Oct. 4	No	—	10	Dec. 13
Pompons	Aug. 23	Sept. 6	Aug. 23-Oct. 3	Oct. 4	No	—	11	Dec. 20
Standards	Aug. 23	Sept. 6	Aug. 23-Oct. 10	Oct. 11	No	—	10	Dec. 20
Pompons	Aug. 30	Sept. 13	Aug. 30-Oct. 10	Oct. 11	No	—	11	Dec. 27
Standards	Aug. 30	Sept. 13	Aug. 30-Oct. 17	Oct. 18	No	—	10	Dec. 27

VARIETIES for above schedules and those at bottom of page 66.

Standards

White

Ind. White
Crystal Queen

Yellow

Imp. Ind. Yellow
Ind. Yellow
Good News

Pink

Ind. Pink
Lav. Queen

Bronze

Dk. Ind. Bronze
Ind. Bronze
Detroit News
Mrs. Roy

Pompons

White

Paramount
Shasta
Little America
(Nov. only)
Encore (till Oct. 31)
Whitetop
Ill. Igloo
Ill. Snowdrift

Yellow

Golden Chord
Klondike (after
Nov. 1)
Yel. Shasta
Pippin
Yel. Paramount
Yel. Ill. Igloo
Yel. Beauregard

Pink

Almega
Soprano
Portrait
Pennant
Masterpiece
(after Nov. 15)

Bronze

Rusticon
Rubicon
Paragon
Thelma
Beauregard
Mrs. Dewey (after
Nov. 1)

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	Sept. 6	Sept. 20	Sept. 6-Sept. 26	Sept. 27	Sept. 27	Oct. 20	14	Jan. 3, '57
Standards	Sept. 6	Sept. 20	Sept. 6-Oct. 24	Oct. 25	No	—	10	Jan. 3
Pompons	Sept. 13	Sept. 27	Sept. 13-Oct. 3	Oct. 4	Oct. 4	Oct. 20	14	Jan. 10
Standards	Sept. 13	Sept. 27	Sept. 13-Oct. 31	Nov. 1	No	—	10	Jan. 10
Pompons	Sept. 13	Sept. 27	Sept. 13-Oct. 10	Oct. 11	Oct. 11	Oct. 20	14	Jan. 17
Standards	Sept. 13	Sept. 27	Sept. 13-Nov. 7	Nov. 8	No	—	10	Jan. 17
Pompons	Sept. 20	Oct. 4	Sept. 20-Oct. 17	Oct. 18	Oct. 18	Oct. 20	14	Jan. 24
Standards	Sept. 20	Oct. 4	Sept. 20-Nov. 14	Nov. 15	No	—	10	Jan. 24
Pompons	Sept. 27	Oct. 11	Sept. 27-Oct. 24	Oct. 25	No	—	14	Jan. 31
Standards	Sept. 27	Oct. 11	Sept. 27-Nov. 21	Nov. 22	No	—	10	Jan. 31

VARIETIES for above schedules

Standards

White

Ind. White
Crystal Queen

Yellow

Imp. Ind. Yellow
Ind. Yellow
Yel. Queen

Pink

Ind. Pink
Lav. Queen

Bronze

Ind. Bronze
Mrs. Roy
Garnet King

Pompons

White

Snowcap
Snowcrest

Yellow

Golden Anniversary
Cinderella
Corsair

Pink

Debutante
Argyle
Alvoda

Bronze

Merrymaker
Christ. Greeting

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	Oct. 4	Oct. 18	Oct. 4-Oct. 31	Nov. 1	No	—	14	Feb. 7
Standards	Oct. 4	Oct. 18	Oct. 4-Nov. 21	Nov. 22	No	—	11	Feb. 7
Pompons	Oct. 11	Oct. 25	Oct. 11-Nov. 7	Nov. 8	No	—	14	Feb. 14
Standards	Oct. 11	Oct. 25	Oct. 11-Nov. 28	Nov. 29	No	—	11	Feb. 14
Pompons	Oct. 18	Nov. 1	Oct. 18-Nov. 14	Nov. 15	No	—	14	Feb. 21
Standards	Oct. 18	Nov. 1	Oct. 18-Dec. 5	Dec. 6	No	—	11	Feb. 21
Pompons	Oct. 25	Nov. 8	Oct. 25-Nov. 21	Nov. 22	No	—	14	Feb. 28
Standards	Oct. 25	Nov. 8	Oct. 25-Dec. 12	Dec. 13	No	—	11	Feb. 28

VARIETIES FOR ABOVE SCHEDULE ON NEXT PAGE

1. Stop shade on Pompons when buds show color; stop shade on October through May Standards when bud is size of a nickel; stop shade on June through September Standards when bud is taken.
2. For single stemmed crops, plant cuttings on pinch date.

FOR GROWERS IN ZONE 2

VARIETIES for schedules at bottom of page 67.

Standards

White

Mefo
Ind. White

Yellow

Yel. Mefo
Imp. Ind. Yellow
Ind. Yellow
Cream Mefo

Pink

Ind. Pink

Bronze

Ind. Bronze
Dk. Ind. Bronze

Pompons

White

Silversmith
Snowcrest
Snowcap (after
Feb. 1)
Satellite

Yellow

Corsair
Cinderella

Pink

Debutante
Argyle
Alvoda

Bronze

Merrymaker

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	Oct. 25	Nov. 8	Oct. 25-Dec. 5	Dec. 6	No	—	13	Mar. 7
Standards	Oct. 25	Nov. 8	Oct. 25-Dec. 19	Dec. 20	No	—	11	Mar. 7
Pompons	Nov. 1	Nov. 15	Nov. 1-Dec. 12	Dec. 13	No	—	13	Mar. 14
Standards	Nov. 1	Nov. 15	Nov. 1-Dec. 26	Dec. 27	No	—	11	Mar. 14

VARIETIES for above schedules

Standards

White

Mefo
Ind. White

Yellow

Yel. Mefo
Ind. Yellow
Cream Mefo

Pink

Ind. Pink

Bronze

Ind. Bronze
Dk. Ind. Bronze

Pompons

White

Acclaim
Satellite

Yellow

Corsair
Yel. Acclaim
Highlander
Omega

Pink

Heritage
Argyle
Debutante

Bronze

Galaxy

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	Nov. 8	Nov. 22	Nov. 8-Jan. 2	Jan. 3	Mar. 1	Note 1	11	Mar. 21
Standards	Nov. 8	Nov. 22	Nov. 8-Jan. 9	Jan. 10	No	—	10	Mar. 21
Pompons	Nov. 15	Nov. 29	Nov. 15-Jan. 9	Jan. 10	Mar. 1	Note 1	11	Mar. 28
Standards	Nov. 15	Nov. 29	Nov. 15-Jan. 16	Jan. 17	No	—	10	Mar. 28
Pompons	Nov. 22	Dec. 6	Nov. 22-Jan. 16	Jan. 17	Mar. 1	Note 1	11	Apr. 4
Standards	Nov. 22	Dec. 6	Nov. 22-Jan. 23	Jan. 24	Mar. 15	Note 1	10	Apr. 4
Pompons	Nov. 22	Dec. 13	Nov. 22-Jan. 23	Jan. 24	Mar. 1	Note 1	11	Apr. 11
Standards	Nov. 22	Dec. 13	Nov. 22-Jan. 30	Jan. 31	Mar. 15	Note 1	10	Apr. 11

VARIETIES for above schedules

Standards

White

Ind. White
Queen's Lace
Wh. Mary Garden

Yellow

Imp. Ind. Yellow
Ind. Yellow
Gold Lace

Pink

Ind. Pink
Mary Garden
Lav. Queen

Bronze

Dk. Ind. Bronze
Ind. Bronze

Pompons

White

Whitetop
Shasta
Paramount
Ill. Igloo
Belray

Yellow

Yel. Shasta
Yel. Paramount
Klondike
Pippin
Forty-Niner
Yel. Ill. Igloo

Pink

Masterpiece
Almega
Portrait
Pennant

Bronze

Rusticon

1. Stop shade on Pompons when buds show color; stop shade on October through May Standards when bud is size of a nickel; stop shade on June through September Standards when bud is taken.
2. For single stemmed crops, plant cuttings on pinch date.

FOR GROWERS IN ZONE 2

Plant Date ^a	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Dec. 6	Dec. 27	Dec. 6-Feb. 6	Feb. 7	Mar. 15	Note 1	10	Apr. 18
Dec. 13	Jan. 3	Dec. 13-Feb. 13	Feb. 14	Mar. 15	Note 1	10	Apr. 25
Jan. 3	Jan. 17	Jan. 3-Feb. 20	Feb. 21	Mar. 15	Note 1	10	May 2
Jan. 10	Jan. 24	Jan. 10-Feb. 27	Feb. 28	Mar. 15	Note 1	10	May 9
Jan. 24	Feb. 7	Jan. 24-Mar. 6	Mar. 7	Mar. 15	Note 1	10	May 16
Jan. 31	Feb. 14	Jan. 31-Mar. 13	Mar. 14	Mar. 15	Note 1	10	May 23
Feb. 7	Feb. 21	Feb. 7-Mar. 20	Mar. 21	Mar. 21	Note 1	10	May 30

VARIETIES for above schedules

Standards

White

Ind. White
Queen's Lace
Wh. Mary Garden

Yellow

Imp. Ind. Yellow
Ind. Yellow
Gold Lace

Pink

Lav. Queen
Mary Garden

Bronze

(not recommended for this period.)

Pompons

White

Whitetop
Keepsake
Shasta
Ill. Igloo
Ill. Snowdrift
Pinocchio
Pacesetter

Yellow

Yel. Shasta
Mary Hall (after May 1)
Creampuff
Yel. Ill. Igloo
Aztec
Starbright
Yel. Beauregard

Pink

Masterpiece
(till May 1)
Portrait
Bluechip
Pennant (till May 15)
Reward

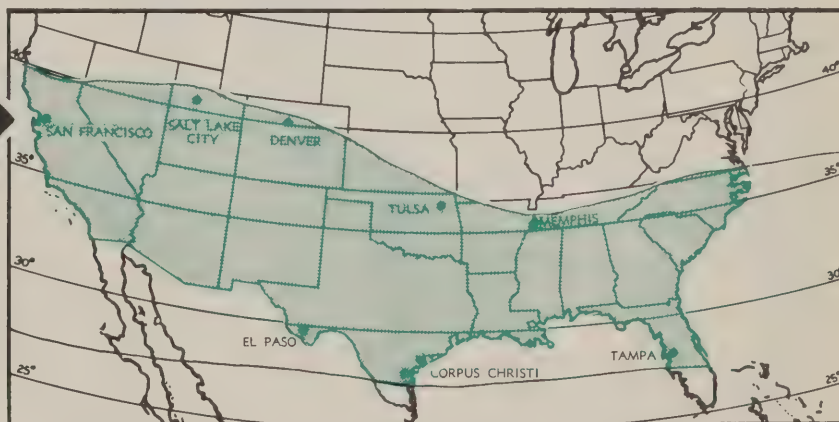
Bronze

Paradise
Talisman

**FOR GROWERS
IN THIS AREA**

ZONE 3

USE SCHEDULES
BELOW (Thru page 72).



Note

It is always difficult to generalize to the extent that these tables require. In many areas covered by Zone 3 shown above, winters are considerably warmer and brighter than average. In these areas, good stem length and quality on both mums and pomps can be produced in less time than these tables specify.

For example: in some southwestern sections, growers successfully grow single stem standards (Indianapolis varieties) with only 3 weeks of long days year round—3 weeks plant to lights off date. The above tables call for as much as 6 weeks of long days on crops to flower in early April, 5 weeks thru much of the winter.

Also some growers report that many varieties will flower in fewer weeks after lights are turned off than the catalog response periods specify. Indianapolis is cataloged as a 10 week variety (10 weeks from start of short days to flower). Under some conditions it will flower in nine weeks or even less.

By reducing the long day period to 3 weeks year round, and allowing only 9 weeks of short days, it is possible to flower 4 crops of Indianapolis per bed per year. It is suggested that too close a schedule not be undertaken without a year's experience on more leisurely schedules.

Our Mum Planning Service will be glad to help if there are any questions about this.

Plant Date ^a	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Dec. 15	Jan. 5/56	Dec. 15-Feb. 8	Feb. 9	Apr. 1	Note 1	10	Apr. 19
Dec. 22	Jan. 12	Dec. 22-Feb. 15	Feb. 16	Apr. 1	Note 1	10	Apr. 26
Jan. 5/56	Jan. 26	Jan. 5-Feb. 22	Feb. 23	Apr. 1	Note 1	10	May 3
Jan. 12	Feb. 2	Jan. 12-Feb. 29	Mar. 1	Apr. 1	Note 1	10	May 10
Jan. 26	Feb. 16	Jan. 26-Mar. 7	Mar. 8	Apr. 1	Note 1	10	May 17
Feb. 2	Feb. 23	Feb. 2-Mar. 14	Mar. 15	Apr. 1	Note 1	10	May 24
Feb. 9	Mar. 1	Feb. 9-Mar. 21	Mar. 22	Apr. 1	Note 1	10	May 31
Feb. 16	Mar. 8	Feb. 16-Mar. 28	Mar. 29	Apr. 1	Note 1	10	June 7
Feb. 23	Mar. 15	Feb. 23-Apr. 4	Apr. 5	Apr. 5	Note 1	10	June 14
Mar. 1	Mar. 22	Mar. 1-Apr. 11	Apr. 12	Apr. 12	Note 1	10	June 21
Mar. 8	Mar. 29	Mar. 8-Apr. 18	Apr. 19	Apr. 19	Note 1	10	June 28

VARIETIES FOR ABOVE SCHEDULES ON NEXT PAGE

FOR GROWERS IN ZONE 3

VARIETIES for above schedule at bottom of page 69.

Standards

White

Ind. White (Note 3)
Gt. Betsy Ross
Queen's Lace
Wh. Mary Garden

Yellow

Imp. Ind. Yellow
(Note 3)
Ind. Yellow (Note 3)
Good News
Gold Lace

Pink

Ind. Pink (Note 3)
Lavender Queen
Mary Garden

Bronze

Detroit News
Dk. Ind. Bronze
(Note 3)
Ind. Bronze (Note 3)

Pompons

White

Whitetop
Shasta (till June 1)
Keepsake
Ill. Igloo
Ill. Snowdrift
Pinocchio
Pacesetter

Yellow

Yellow Shasta
(till June 1)
Mary Hall
Gold Coast
Yel. Beauregard
Yel. Ill. Igloo
Aztec

Pink

Bluechip
Reward
Portrait

Bronze

Orange
Beauregard
Talisman
Buckskin
Paradise

Warning: pink and bronze standards and poms will fade badly at high temperatures.

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	Mar. 15	Apr. 5	Mar. 15-May 2	May 3	May 3	Note 1	9	July 5
Standards	Mar. 15	Apr. 5	Mar. 15-Apr. 25	Apr. 26	Apr. 26	Note 1	10	July 5
Pompons	Mar. 22	Apr. 12	Mar. 22-May 9	May 10	May 10	Note 1	9	July 12
Standards	Mar. 22	Apr. 12	Mar. 22-May 2	May 3	May 3	Note 1	10	July 12
Pompons	Mar. 29	Apr. 19	Mar. 29-May 16	May 17	May 17	Note 1	9	July 19
Standards	Mar. 29	Apr. 19	Mar. 29-May 9	May 10	May 10	Note 1	10	July 19
Pompons	Apr. 12	Apr. 26	Apr. 12-May 23	May 24	May 24	Note 1	9	July 26
Standards	Apr. 12	Apr. 26	Apr. 12-May 16	May 17	May 17	Note 1	10	July 26
Pompons	Apr. 19	May 3	Apr. 19-May 30	May 31	May 31	Note 1	9	Aug. 2
Standards	Apr. 19	May 3	Apr. 19-May 23	May 24	May 24	Note 1	10	Aug. 2
Pompons	Apr. 26	May 10	Apr. 26-June 6	June 7	June 7	Note 1	9	Aug. 9
Standards	Apr. 26	May 10	Apr. 26-May 30	May 31	May 31	Note 1	10	Aug. 9
Pompons	May 3	May 17	May 3-June 13	June 14	June 14	Note 1	9	Aug. 16
Standards	May 3	May 17	May 3-June 6	June 7	June 7	Note 1	10	Aug. 16
Pompons	May 10	May 24	May 10-June 20	June 21	June 21	Note 1	9	Aug. 23
Standards	May 10	May 24	May 10-June 13	June 14	June 14	Note 1	10	Aug. 23
Pompons	May 17	May 31	May 17-June 27	June 28	June 28	Note 1	9	Aug. 30
Standards	May 17	May 31	May 17-June 20	June 21	June 21	Note 1	10	Aug. 30
Pompons	May 24	June 7	May 24-July 4	July 5	July 5	Note 1	9	Sept. 6
Standards	May 24	June 7	May 24-June 27	June 28	June 28	Note 1	10	Sept. 6
Pompons	May 31	June 14	May 31-July 11	July 12	July 12	Note 1	9	Sept. 13
Standards	May 31	June 14	May 31-July 4	July 5	July 5	Note 1	10	Sept. 13

VARIETIES for above schedules

Standards

White

Gt. Betsy Ross
(till Sept.)
Ind. White
(note 3)

Yellow

Good News
Imp. Ind. Yellow
(note 3)
Ind. Yellow (note 3)

Pink

Dk. Orchid Queen
Ind. Pink
(note 3)

Bronze

Detroit News
Dk. Ind. Bronze
(note 3)
Ind. Bronze (note 3)

Pompons

White

Keepsake
Popcorn
Vesta
Halo
Pinocchio
Silver Cloud

Yellow

Gold Coast
Golden Herald
Sunup
Aztec
Yellow Halo
Starbright

Pink

Bluechip
Reward
Vogue

Bronze

Jetfire
Gaiety
Buckskin
Hilarity
Chevron

Warning: pink and bronze standards and poms will fade badly at high temperatures.

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
	June 7	June 21	June 7-July 11	July 12	July 12	Note 1	10	Sept. 20
	June 14	June 28	June 14-July 18	July 19	July 19	Note 1	10	Sept. 27
	June 21	July 5	June 21-July 25	July 26	July 26	Sept. 25	10	Oct. 4
	June 28	July 12	June 28-Aug. 1	Aug. 2	Aug. 2	Sept. 25	10	Oct. 11
	July 5	July 19	July 5-Aug. 8	Aug. 9	Aug. 9	Sept. 25	10	Oct. 18
	July 12	July 26	July 12-Aug. 15	Aug. 16	Aug. 16	Sept. 25	10	Oct. 25
	July 19	Aug. 2	July 19-Aug. 22	Aug. 23	Aug. 23	Sept. 25	10	Nov. 1
	July 26	Aug. 9	July 26-Aug. 29	Aug. 30	Aug. 30	Sept. 25	10	Nov. 8

BALANCE OF SCHEDULES AND VARIETIES NEXT PAGE

3. In sections where summer heat is severe, Gt. Betsy Ross and Good News are recommended.

FOR GROWERS IN ZONE 3

Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Aug. 2	Aug. 16	Aug. 2-Sept. 5	Sept. 6	Sept. 6	Sept. 25	10	Nov. 15
Aug. 9	Aug. 23	Aug. 9-Sept. 12	Sept. 13	Sept. 13	Sept. 25	10	Nov. 22
Aug. 16	Aug. 30	Aug. 16-Sept. 19	Sept. 20	Sept. 20	Sept. 25	10	Nov. 29
Aug. 23	Sept. 6	Aug. 23-Sept. 26	Sept. 27	No	—	10	Dec. 6
Aug. 30	Sept. 13	Aug. 30-Oct. 3	Oct. 4	No	—	10	Dec. 13
Aug. 30	Sept. 13	Aug. 30-Oct. 10	Oct. 11	No	—	10	Dec. 20
Sept. 6	Sept. 20	Sept. 6-Oct. 17	Oct. 18	No	—	10	Dec. 27
Sept. 13	Sept. 27	Sept. 13-Oct. 24	Oct. 25	No	—	10	Jan. 3, '57
Sept. 20	Oct. 4	Sept. 20-Oct. 31	Nov. 1	No	—	10	Jan. 10

VARIETIES for above schedules

Standards

White

Ind. White
Crystal Queen

Yellow

Imp. Ind. Yellow
Ind. Yellow
Good News
(till Oct. 1)

Pink

Ind. Pink
Lavender Queen

Bronze

Dk. Ind. Bronze
Ind. Bronze
Detroit News
(till Sept. 1)

Pompons

White

Whitetop
Songster (till Oct. 1)
Shasta
III. Igloo
Halo
III. Snowdrift
Pinocchio

Yellow

Yellow Shasta
Mary Hall
(till Oct. 1)
Yel. Beauregard
Yel. III. Igloo
Aztec

Pink

Bluechip
Portrait
Reward

Bronze

Beauregard
Orange
Beauregard
Jetfire
Chevron
Rubicon
Gaiety

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	Sept. 20	Oct. 4	Sept. 20-Oct. 31	Nov. 1	No	—	11	Jan. 17
Standards	Sept. 20	Oct. 4	Sept. 20-Nov. 7	Nov. 8	No	—	10	Jan. 17
Pompons	Sept. 27	Oct. 11	Sept. 27-Nov. 7	Nov. 8	No	—	11	Jan. 24
Standards	Sept. 27	Oct. 11	Sept. 27-Nov. 14	Nov. 15	No	—	10	Jan. 24
Pompons	Oct. 4	Oct. 18	Oct. 4-Nov. 14	Nov. 15	No	—	11	Jan. 31
Standards	Oct. 4	Oct. 18	Oct. 4-Nov. 21	Nov. 22	No	—	10	Jan. 31
Pompons	Oct. 11	Oct. 25	Oct. 11-Nov. 21	Nov. 22	No	—	11	Feb. 7
Standards	Oct. 11	Oct. 25	Oct. 11-Nov. 28	Nov. 29	No	—	10	Feb. 7
Pompons	Oct. 18	Nov. 1	Oct. 18-Nov. 28	Nov. 29	No	—	11	Feb. 14
Standards	Oct. 18	Nov. 1	Oct. 18-Dec. 5	Dec. 6	No	—	10	Feb. 14
Pompons	Oct. 25	Nov. 8	Oct. 25-Dec. 5	Dec. 6	No	—	11	Feb. 21
Standards	Oct. 25	Nov. 8	Oct. 25-Dec. 12	Dec. 13	No	—	10	Feb. 21
Pompons	Nov. 1	Nov. 15	Nov. 1-Dec. 12	Dec. 13	No	—	11	Feb. 28
Standards	Nov. 1	Nov. 15	Nov. 1-Dec. 19	Dec. 20	No	—	10	Feb. 28
Pompons	Nov. 1	Nov. 15	Nov. 1-Dec. 19	Dec. 20	No	—	11	Mar. 7
Standards	Nov. 1	Nov. 15	Nov. 1-Dec. 26	Dec. 27	No	—	10	Mar. 7
Pompons	Nov. 8	Nov. 22	Nov. 8-Dec. 26	Dec. 27	No	—	11	Mar. 14
Standards	Nov. 8	Nov. 22	Nov. 8-Jan. 2	Jan. 3	No	—	10	Mar. 14
Pompons	Nov. 15	Nov. 29	Nov. 15-Jan. 2	Jan. 3	No	—	11	Mar. 21
Standards	Nov. 15	Nov. 29	Nov. 15-Jan. 9	Jan. 10	No	—	10	Mar. 21
Pompons	Nov. 15	Dec. 6	Nov. 15-Jan. 9	Jan. 10	No	—	11	Mar. 28
Standards	Nov. 15	Dec. 6	Nov. 15-Jan. 16	Jan. 17	No	—	10	Mar. 28

VARIETIES for above schedules

Standards

White

Ind. White
Crystal Queen
Queen's Lace
(after March 1)
White Mary Garden
(after March 1)

Yellow

Imp. Ind. Yellow
Ind. Yellow
Gold Lace
(after March 1)

Pink

Ind. Pink
Lavender Queen

Bronze

Ind. Bronze
Dk. Ind. Bronze

Pompons

White

Paramount
Shasta
Whitetop
III. Igloo
III. Snowdrift

Yellow

Yellow Shasta
Pippin
Klondike
Forty-Niner
Golden Chord
Yel. Paramount
Yel. III. Igloo
Yel. Beauregard

Pink

Portrait
Almega
Pennant
Soprano
Masterpiece

Bronze

Thelma
Rusticon
Rubicon
Beauregard
Orange
Beauregard
Paragon
Mrs. Dewey

FOR GROWERS IN ZONE 3

Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Nov. 22	Dec. 13	Nov. 22-Jan. 23	Jan. 24	No	—	10	Apr. 4
Nov. 29	Dec. 20	Nov. 29-Jan. 30	Jan. 31	No	—	10	Apr. 11
Dec. 13	Jan. 3, '57	Dec. 13-Feb. 6	Feb. 7	Apr. 1	Note 1	10	Apr. 18
Dec. 20	Jan. 10	Dec. 20-Feb. 13	Feb. 14	Apr. 1	Note 1	10	Apr. 25
Jan. 3, '57	Jan. 24	Jan. 3-Feb. 20	Feb. 21	Apr. 1	Note 1	10	May 2
Jan. 10	Jan. 31	Jan. 10-Feb. 27	Feb. 28	Apr. 1	Note 1	10	May 9
Jan. 24	Feb. 14	Jan. 24-Mar. 6	Mar. 7	Apr. 1	Note 1	10	May 16
Jan. 31	Feb. 21	Jan. 31-Mar. 13	Mar. 14	Apr. 1	Note 1	10	May 23
Feb. 7	Feb. 28	Feb. 7-Mar. 20	Mar. 21	Apr. 1	Note 1	10	May 30

VARIETIES for above schedules

Standards

White

Ind. White (Note 3)
Gt. Betsy Ross
Queen's Lace
White Mary Garden

Yellow

Imp. Ind. Yellow
(Note 3)
Ind. Yellow (Note 3)
Good News
Gold Lace

Pink

Ind. Pink (Note 3)
Lavender Queen
Mary Garden

Bronze

Dk. Ind. Bronze
(Note 3)
Ind. Bronze (Note 3)
Detroit News

Pompons

White

Whitotop
Shasta (till June 1)
Keepsake
Ill. Igloo
Ill. Snowdrift
Pinocchio
Pacesetter

Yellow

Yellow Shasta
(till June 1)
Mary Hall
Gold Coast
Yel. Ill. Igloo
Yel. Beauregard
Creampuff
Aztec

Pink

Bluechip
Reward
Portrait

Bronze

Orange Beauregard
Talisman
Buckskin
Paradise

ZONE 4

**FOR GROWERS
IN THIS AREA**

USE SCHEDULES
BELOW (Thru page 74)



Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Dec. 15	Jan. 5	Dec. 15-Jan. 25	Jan. 26	No	—	10	Apr. 5
Dec. 22	Jan. 12	Dec. 22-Feb. 1	Feb. 2	Apr. 1	Note 1	10	Apr. 12
Dec. 29	Jan. 19	Dec. 29-Feb. 8	Feb. 9	Apr. 1	Note 1	10	Apr. 19
Jan. 5, '56	Jan. 26	Jan. 5-Feb. 15	Feb. 16	Apr. 1	Note 1	10	Apr. 26
Jan. 12	Feb. 2	Jan. 12-Feb. 22	Feb. 23	Apr. 1	Note 1	10	May 3
Jan. 19	Feb. 9	Jan. 19-Feb. 29	Mar. 1	Apr. 1	Note 1	10	May 10
Jan. 26	Feb. 16	Jan. 26-Mar. 7	Mar. 8	Apr. 1	Note 1	10	May 17
Feb. 2	Feb. 23	Feb. 2-Mar. 14	Mar. 15	Apr. 1	Note 1	10	May 24
Feb. 9	Mar. 1	Feb. 9-Mar. 21	Mar. 22	Apr. 1	Note 1	10	May 31

VARIETIES for above schedules

Standards

White

Gt. Betsy Ross

Yellow

Good News

Pink

Dk. Orchid Queen

Bronze

(Not recommended
for this period)

Pompons

White

Whitotop
Keepsake
Ill. Igloo
Shasta

Yellow

Mary Hall
Gold Coast
Golden Herald
Yel. Beauregard
Yel. Ill. Igloo

Pink

Bluechip
Portrait
Pink Dot

Bronze

Beauregard
Orange
Beauregard
Br. Dot

1. Stop shade on Pompons when buds show color; stop shade on October through May Standards when bud is size of a nickel; stop shade on June through September Standards when bud is taken.
2. For single stemmed crops, plant cuttings on pinch date.

FOR GROWERS IN ZONE 4

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	Feb. 16	Mar. 8	Feb. 16-Apr. 4	Apr. 5	Apr. 15	Note 1	9	June 7
Standards	Feb. 16	Mar. 8	Feb. 16-Mar. 28	Mar. 29	Apr. 1	Note 1	10	June 7
Pompons	Feb. 23	Mar. 15	Feb. 23-Apr. 11	Apr. 12	Apr. 15	Note 1	9	June 14
Standards	Feb. 23	Mar. 15	Feb. 23-Apr. 4	Apr. 5	Apr. 5	Note 1	10	June 14
Pompons	Mar. 1	Mar. 22	Mar. 1-Apr. 18	Apr. 19	Apr. 19	Note 1	9	June 21
Standards	Mar. 1	Mar. 22	Mar. 1-Apr. 11	Apr. 12	Apr. 12	Note 1	10	June 21
Pompons	Mar. 8	Mar. 29	Mar. 8-Apr. 25	Apr. 26	Apr. 26	Note 1	9	June 28
Standards	Mar. 8	Mar. 29	Mar. 8-Apr. 18	Apr. 19	Apr. 19	Note 1	10	June 28
Pompons	Mar. 15	Apr. 5	Mar. 15-May 2	May 3	May 3	Note 1	9	July 5
Standards	Mar. 15	Apr. 5	Mar. 15-Apr. 25	Apr. 26	Apr. 26	Note 1	10	July 5
Pompons	Mar. 22	Apr. 12	Mar. 22-May 9	May 10	May 10	Note 1	9	July 12
Standards	Mar. 22	Apr. 12	Mar. 22-May 2	May 3	May 3	Note 1	10	July 12
Pompons	Mar. 29	Apr. 19	Mar. 29-May 16	May 17	May 17	Note 1	9	July 19
Standards	Mar. 29	Apr. 19	Mar. 29-May 9	May 10	May 10	Note 1	10	July 19
Pompons	Apr. 5	Apr. 26	Apr. 5-May 23	May 24	May 24	Note 1	9	July 26
Standards	Apr. 5	Apr. 26	Apr. 5-May 16	May 17	May 17	Note 1	10	July 26
Pompons	Apr. 12	May 3	Apr. 12-May 30	May 31	May 31	Note 1	9	Aug. 2
Standards	Apr. 12	May 3	Apr. 12-May 23	May 24	May 24	Note 1	10	Aug. 2
Pompons	Apr. 19	May 10	Apr. 19-June 6	June 7	June 7	Note 1	9	Aug. 9
Standards	Apr. 19	May 10	Apr. 19-May 30	May 31	May 31	Note 1	10	Aug. 9

VARIETIES for above schedules

Standards

White

Gt. Betsy Ross

Yellow

Good News

Pink

Dk. Orchid Queen

Bronze

(Not recommended)

Pompons

White

Keepsake

Popcorn

Vesta

Halo

Pinocchio

Silver Cloud

Yellow

Gold Coast

Golden Herald

Aztec

Yellow Halo

Starbright

Sunup

Pink

Bluechip

Reward

Vogue

Warning: pink and bronze standards and poms will fade badly at high temperatures.

Bronze

Jetfire

Gaiety

Buckskin

Hilarity

Chevron

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
	Apr. 26	May 17	Apr. 26-June 6	June 7	June 7	Note 1	10	Aug. 16
	May 3	May 24	May 3-June 13	June 14	June 14	Note 1	10	Aug. 23
	May 10	May 31	May 10-June 20	June 21	June 21	Note 1	10	Aug. 30
	May 17	June 7	May 17-June 27	June 28	June 28	Note 1	10	Sept. 6
	May 24	June 14	May 24-July 4	July 5	July 5	Note 1	10	Sept. 13
	May 31	June 21	May 31-July 11	July 12	July 12	Note 1	10	Sept. 20
	June 7	June 28	June 7-July 18	July 19	July 19	Note 1	10	Sept. 27
	June 14	July 5	June 14-July 25	July 26	July 26	Sept. 25	10	Oct. 4
	June 21	July 12	June 21-Aug. 1	Aug. 2	Aug. 2	Sept. 25	10	Oct. 11
	June 28	July 19	June 28-Aug. 8	Aug. 9	Aug. 9	Sept. 25	10	Oct. 18
	July 5	July 26	July 5-Aug. 15	Aug. 16	Aug. 16	Sept. 25	10	Oct. 25
	July 12	Aug. 2	July 12-Aug. 22	Aug. 23	Aug. 23	Sept. 25	10	Nov. 1
	July 19	Aug. 9	July 19-Aug. 29	Aug. 30	Aug. 30	Sept. 25	10	Nov. 8
	July 26	Aug. 16	July 26-Sept. 5	Sept. 6	Sept. 6	Sept. 25	10	Nov. 15
	Aug. 2	Aug. 23	Aug. 2-Sept. 12	Sept. 13	Sept. 13	Sept. 25	10	Nov. 22
	Aug. 9	Aug. 30	Aug. 9-Sept. 19	Sept. 20	Sept. 20	Sept. 25	10	Nov. 29
	Aug. 16	Sept. 6	Aug. 16-Sept. 26	Sept. 27	No	—	10	Dec. 6
	Aug. 23	Sept. 13	Aug. 23-Oct. 3	Oct. 4	No	—	10	Dec. 13
	Aug. 30	Sept. 20	Aug. 30-Oct. 10	Oct. 11	No	—	10	Dec. 20
	Sept. 6	Sept. 27	Sept. 6-Oct. 17	Oct. 18	No	—	10	Dec. 27

VARIETIES for above schedules

Standards

White

Gt. Betsy Ross

(till Oct. 1)

Ind. White (after Oct. 1)

Yellow

Good News

Ind. Yellow

(after Oct. 1)

Pink

Ind. Pink

(after Oct. 1)

Bronze

Detroit News

Dk. Ind. Bronze

Ind. Bronze (after Oct. 1)

Pompons

White

Whitetop

Songster

Shasta

Ill. Igloo

Yellow

Mary Hall

Yel. Beauregard

Yel. Ill. Igloo

Pink

Bluechip

Portrait

Reward

Pandora

Bronze

Beauregard

Jetfire

Rubaiyat

Orange Beauregard

Rubicon

FOR GROWERS IN ZONE 4

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
Pompons	Sept. 6	Sept. 27	Sept. 6-Oct. 17	Oct. 18	No	—	11	Jan. 3, '57
Standards	Sept. 6	Sept. 27	Sept. 6-Oct. 24	Oct. 25	No	—	10	Jan. 3
Pompons	Sept. 13	Oct. 4	Sept. 13-Oct. 24	Oct. 25	No	—	11	Jan. 10
Standards	Sept. 13	Oct. 4	Sept. 13-Oct. 31	Nov. 1	No	—	10	Jan. 10
Pompons	Sept. 20	Oct. 11	Sept. 20-Oct. 31	Nov. 1	No	—	11	Jan. 17
Standards	Sept. 20	Oct. 11	Sept. 20-Nov. 7	Nov. 8	No	—	10	Jan. 17
Pompons	Sept. 27	Oct. 18	Sept. 27-Nov. 7	Nov. 8	No	—	11	Jan. 24
Standards	Sept. 27	Oct. 18	Sept. 27-Nov. 14	Nov. 15	No	—	10	Jan. 24
Pompons	Oct. 4	Oct. 25	Oct. 4-Nov. 14	Nov. 15	No	—	11	Jan. 31
Standards	Oct. 4	Oct. 25	Oct. 4-Nov. 21	Nov. 22	No	—	10	Jan. 31
Pompons	Oct. 11	Nov. 1	Oct. 11-Nov. 21	Nov. 22	No	—	11	Feb. 7
Standards	Oct. 11	Nov. 1	Oct. 11-Nov. 28	Nov. 29	No	—	10	Feb. 7
Pompons	Oct. 18	Nov. 8	Oct. 18-Nov. 28	Nov. 29	No	—	11	Feb. 14
Standards	Oct. 18	Nov. 8	Oct. 18-Dec. 5	Dec. 6	No	—	10	Feb. 14
Pompons	Oct. 25	Nov. 15	Oct. 25-Dec. 5	Dec. 6	No	—	11	Feb. 21
Standards	Oct. 25	Nov. 15	Oct. 25-Dec. 12	Dec. 13	No	—	10	Feb. 21
Pompons	Nov. 1	Nov. 22	Nov. 1-Dec. 12	Dec. 13	No	—	11	Feb. 28
Standards	Nov. 1	Nov. 22	Nov. 1-Dec. 19	Dec. 20	No	—	10	Feb. 28

VARIETIES for above schedules

Standards

White

Ind. White

Yellow

Imp. Ind. Yellow
Ind. Yellow

Pink

Ind. Pink

Bronze

Dk. Ind. Bronze
Ind. Bronze

Pompons

White

Belray
Whitetop
Encore
Fortune
White Taffeta

Yellow

Lollipop
Forty-Niner
(till Feb. 15)
Golden Chord
(till Feb. 15)
Pippin
Highlander

Pink

Portrait
Bluechip
Taffeta
Masterpiece
Almega

Bronze

Beauregard
Rubicon
Rubaiyat

	Plant Date ²	Pinch Date	Lighting Period	Lights Off	Start Shade	Stop Shade	Response Group	Flowering Date
	Nov. 8	Nov. 29	Nov. 8-Dec. 26	Dec. 27	No	—	10	Mar. 7
	Nov. 15	Dec. 6	Nov. 15-Jan. 2	Jan. 3	No	—	10	Mar. 14
	Nov. 22	Dec. 13	Nov. 22-Jan. 9	Jan. 10	No	—	10	Mar. 21
	Nov. 29	Dec. 20	Nov. 29-Jan. 16	Jan. 17	No	—	10	Mar. 28
	Dec. 13	Jan. 3	Dec. 13-Jan. 23	Jan. 24	No	—	10	Apr. 4
	Dec. 20	Jan. 10	Dec. 20-Jan. 30	Jan. 31	Apr. 1	Note 1	10	Apr. 11
	Dec. 27	Jan. 17	Dec. 27-Feb. 6	Feb. 7	Apr. 1	Note 1	10	Apr. 18
	Jan. 3, '57	Jan. 24	Jan. 3-Feb. 13	Feb. 14	Apr. 1	Note 1	10	Apr. 25
	Jan. 10	Jan. 31	Jan. 10-Feb. 20	Feb. 21	Apr. 1	Note 1	10	May 2
	Jan. 17	Feb. 7	Jan. 17-Feb. 27	Feb. 28	Apr. 1	Note 1	10	May 9
	Jan. 24	Feb. 14	Jan. 24-Mar. 6	Mar. 7	Apr. 1	Note 1	10	May 16
	Jan. 31	Feb. 21	Jan. 31-Mar. 13	Mar. 14	Apr. 1	Note 1	10	May 23
	Feb. 7	Feb. 28	Feb. 7-Mar. 20	Mar. 21	Apr. 1	Note 1	10	May 30

VARIETIES for above schedules

Standards

White

Gt. Betsy Ross
Ind. White

Yellow

Good News
Ind. Yellow

Pink

Dk. Orchid Queen
Ind. Pink

Bronze

(Not recommended for this period)

Pompons

White

Pristine (after April 1)
Whitetop
Encore
Keepsake (after April 1)
Ill. Igloo
Shasta
Belray (till April 1)

Yellow

Mary Hall
(after March 25)
Gold Coast
(after March 25)
Golden Herald
Yellow Beauregard
Yellow Ill. Igloo

Pink

Bluechip
Portrait
Pink Dot
Taffeta

Bronze

Beauregard
Or. Beauregard
Bronze Dot

1. Stop shade on Pompons when buds show color; stop shade on October through May Standards when bud is size of a nickel; stop shade on June through September Standards when bud is taken.
2. For single stemmed crops, plant cuttings on pinch date.

Pot Mums Round The Year

The past season has seen continued growth in the year round pot mum crop. The larger wholesale pot plant specialists continue to find a market for what they produce. You hear more and more of \$1.75 for a **good** 6 inch—rather than the customary \$1.50. Oddly enough, the biggest development in out of season pot growing seems to be among small to medium sized retail growers. A small but steady program of pot mum production with some build-up for the spring holidays and Thanksgiving seems to be a solid deal for these retail growers.

The biggest requirement here is temperature. A 60° house will do it, but 65 generally will give more uniform and prompt bud set. This, and the usual shade and light facilities are the main requirements.

As with cut flowers, our Ball Mum Planning Service will be glad to work out a continuous flowering pot plant program for you. See page 1 for details.

Modified Second Pinch

A "modified second pinch" has been tried by some growers. It's a very soft (high) pinch made 2-3 weeks after the first pinch. It results in more flowers per plant, perhaps 50-75% more—but all of them are smaller. Also the plant is a bit shorter and flowers 5 to 7 days later.

This pinch is made after 2 pairs of leaves have developed on the new shoots. Only the stronger shoots are pinched. Modified second pinch is only recommended for sunny seasons, not in winter.

No other change in schedule. Be sure this modified second pinch is made within 3 weeks of the start of short days.

Area Needed

For growers interested in an approximate amount of bench area needed for a given production of year round pot mums (6 inch):

To produce 50 pot mums every two weeks year round, about 380 sq. ft. of bench space will be needed. A small part of this area must be equipped for lighting; all of it must have enough heat to hold at least 60°, better 65°.

To produce 50 pots every two weeks, by the way, is a good minimum program for the retail grower. Much less total production and less frequent flowering is usually not too practical.

Temperatures—65° does it

Definitely we recommend 65° nights (70° cloudy days, 75° clear days) for off-season pot growing. We've tried 60°; you just don't get the even bud set and flower development that you do at 65°.

After color shows, we drop them to 55°, or even less if we're holding them for a holiday.

Plants too tall?

The old cure: keep 'em dry and starved. The new one: delayed pinch.

With this new trick, another product of our floriculture schools, we are able to regulate the final height of the plant almost at will. See photo, page 78.

The year round pot mum schedules that follow take full advantage of this delayed pinch idea. If, for any reason, your pot mums flower too tall, chances are that delaying the final pinch for 5 to 7 days more next year will bring them down.

Two other pointers on too tall plants:

1. **Crowding plants** unduly makes them grow tall and chimney shaped instead of spreading. Well-grown 6 inch pot mums should need and get 1½ sq. ft. (15 x 15) in their final stages.

2. **Pinching:** with cut flowers, we get the strongest, most, and best breaks when we pinch only the top ½ inch or so out. Pot mum schedules are designed so that only 1 or 2

inches of new growth should normally occur prior to a pinch. However, due to delayed pinching, varying rates of growth, etc., plants may make up to 4-5 inches of new growth before the pinch. If only the tip of this is removed, a tall, leggy plant is coming your way. Only answer we find: cut them back to leave 2-3 inches of the new growth. In any case, leave two pairs of leaves.

Remember: new breaks are encouraged by ample nitrates, water, and sunlight (space). Most varieties if carefully grown can be kept so short they won't need staking.

Azalea pots, being somewhat shorter, are usually used for pot mums.

Several Suggestions

1. In potting Mum cuttings directly to the flowering pot (which is generally done), it helps to grade out the cuttings, putting the extra large ones together, etc. This makes for more uniformity.

2. Most good growers arrange the cuttings in a circle around the outer edge of the pot. This leaves more air and light at the center.

3. Another interesting new slant that has worked well for many growers: as the cuttings are planted into the pots, set them so that they point outwards at about a 45° angle rather than straight up. This will help still more in getting air and light into the center of the pot. It will tend to make the plant more spreading and bushy—less chimney shaped. Try it.

Plants too short?

In most sections, the retailers prefer a plant that measures 12 inches high, 12 inches across the top of the flower head—and with 12 flowers. Just remember "12 x 12 x 12".

Mainly in the case of Wilson's White and Granite State on winter crops, plants tend to flower **too short**. The year round pot schedules that follow have allowed several weeks more of long days (lighting period) than last year's schedules to lengthen the plants. A high soft pinch on these varieties will definitely help get them to flower taller and with more breaks per stem. The added weeks of light give the plants more time to develop substance.

About rapid growth

Needless to say, all we covered about humus, feeding, ample water, etc. under cut mums applies here—with interest! After all, we're growing a lot of plants in a handful of soil, and that takes some watching. Highlights:

1. **Humus:** one fourth peat. We steam the soil—a year's supply at a time.

2. **Feeding:** Phosphate added dry as peat-manure is mixed. Nitrate and potash applied weekly (in summer) as a liquid feed. Use same rates with 25-0-25 as for cut Mums. Some excellent pot Mum specialists feed every 3 days!

3. **Water**—be sure there's good drainage, then keep them well watered, especially as they get larger. That may mean every day in hot weather (twice in hot areas). If pots are set on muddy soil, it stops up drain holes.

In potting don't fill the pot clear full. Leaving an inch will catch more water—reduce frequency of watering.

Disbudding

In most sections, competition demands that the 10 or 12 stems on a pot mum be disbudded to one flower per stem; also side shoots are removed down the stem. Exception: the garden varieties, or any pompon grown as a pot mum. They just won't make a bigger flower, even when disbudded.

TROUBLES—A Few of the Most Common

1. Uneven bud set?

The same problem as with cut mums. For winter-spring

POT MUMS ROUND THE YEAR

crops, we find 65° nights gives much more even bud set and development than 60°. Good quality, too.

2. Lower leaves dry up—why?

Several reasons. One very common one is foliar nematode or foliage diseases. See page 50. Generally they are worse on outdoor grown plants.

Two other reasons: overcrowding and underfeeding. Under good care, the leaves should stay on, and stay green clear to the bottom. Poor drainage seems to affect them, too.

3. Can't get over 1 or 2 breaks per cutting

As with any plant, the three main requirements for generous and prompt breaking are plenty of nitrate and potash, plenty of water, and ample sunlight (meaning **generous** spacing). Varieties differ—Bonaffon is good. We put one more cutting per pot of poor breakers.

A good, soft cutting will always break better than a hard, wiry one.

4. Flowers rot as they open

Much the same story as with cut mums.

Several pot mum growers report good control with Parzate dust—every 3 days. Some shade in hot weather helps.

ABOUT SINGLE STEM POT MUMS

We don't recommend to any grower that he go over 100% to single stem pot Mums. But there are some angles to them that may fit your trade. The pros and cons as we see them:

Let's put down the disadvantages first. Mainly it's more cuttings—probably seven to a 6 inch pot against five for the same plant pinched. Net loss: two cuttings.

On the credit side:

1. Large, showy blooms—Indianapolis White, for example, makes fine large, showy blooms that would average $\frac{1}{3}$ to $\frac{1}{2}$ larger than the same variety pinched. They're really quite striking. It's a deluxe plant, but still finished in a six. Individual flowers ran $5\frac{1}{2}$ to 6 inches in our trials. If competition in pot mums is hot on your heels, perhaps this is a way to "have the best".
2. Ordinarily, no pinch plants do not require tying. They are short, and having more plants per pot than pinched plants, tend to stand up better.
3. No more problem of getting enough breaks per plant. Indianapolis is bad on this, but nice grown "no pinch".
4. You save several weeks time on the bench—and the labor of pinching and tying, too, of course.

Here's How:

Plant 5-7 cuttings per 6" pot; no long days. Start short days soon as cuttings are potted. Do not pinch. Salable pot plant in 9½-10 weeks. Dark Indianapolis Yellow and Indianapolis White are best for this treatment!

Use only varieties that are normally quite short growers. The Maekawa Brothers in Seattle find that by keeping the plants on the hungry side till buds show, they flower shorter.

GARDEN MUMS FOR SPRING FLOWERING

Use of the "hardies" for spring flowering in 3 inch and 5 inch pots is fast taking hold across the country. Reasons as we see them:

1. Besides being a showy little flowering plant at time of spring sales, they can be planted outdoors for another flowering in the fall. It's easy and it works!
2. Tho not as large flowered as the regular greenhouse mums, they make up for it in showy and unusual colors.
3. Cheap to produce—a fast crop (2½ months) no disbudding. Some growers even dispense with shade and lights especially on the later flowerings.
4. Well adapted to cash and carry type of trade.

SCHEDULES

Plant Cuttings	Jan. 19	March 1	March 15
Lighting Period	Jan. 19-25	March 1-7	March 15-21
Shade	March 15	March 15	March 22
Pinch	Feb. 9	March 22	April 5
Flower	Easter	Mother's Day	Decoration Day

VARIETIES

WHITE		YELLOW	
Chris.	Lyric	Yel. Chris.	Pomponette
Columbus	Classic	Columbus	Goldrush
Silverplate	Horizon	Gold Lode	Chiquita
Maestro	Paper White		
BRONZE & RED		PINK	
Remembrance	Calumet	Alert	Courtier
		Spellbound	Joybringer

Use only varieties that are normally quite short growers

No Shade, No Lights

Garden varieties can be flowered very nicely as spring pot plants without shade or lights. They will not flower at an exact date, but by using quite a few varieties, you can have a spread of bloom from late April thru May. One large retail grower sells 3 inch plants grown this way at 39c retail—cash and carry. He moves a lot of them!

Simply pot cuttings direct on March 2. Pinch them (a soft pinch) on March 9. No shade, no lights. The varieties listed above will flower April 25 thru May. Plants must be kept at 60° till buds set. This can be done in a 50° house by enclosing the plants under sateen at night and turning heat on under the cover.

Cool temperatures after buds set will intensify colors.

* * *

ATTENTION SOUTHERN GROWERS:

In any areas where winters are quite sunny, open, and warm, the schedules given in the tables that follow will tend to make excessively tall plants during the winter season. In such areas, better results will be obtained if the late summer schedules given here are used year round—with perhaps one extra week of lighting added for plants to flower between January 1 and April 1.

The taller kinds (Indianapolis, Copperhead, Pacemaker) are given **no long day period** at all (even in winter) by many growers in these "sunny winter" areas. This means no lights, and in summer, shade same day cuttings are potted. To further insure against excessive height, pinch is delayed till two weeks (winter) after potting or three weeks (summer-fall crops).

Shorter growing varieties (Delaware, Wilson's White) are given one week of lights on crops to be flowered December 15 thru March 1. Rest of the year: no long days.

Single stem growing (mostly Indianapolis) is practiced quite extensively—no lights at any time of year. Indianapolis has less of a long exposed neck grown no pinch.

For any variety anywhere anytime of the year, if plants are too tall, change the schedule next year to:

1. Provide fewer (or no) long days between potting and shading (or lights off).
2. Delay the pinch still more. Up to two or three weeks between start of short days and pinch date is not uncommon.

Don't forget that other things cause tall plants: crowding, dirty glass, rooting thru the drain hole, heat delay in summer—and use of too tall varieties.

Our Ball Mum Planning Service staff and your local Ball representative are familiar with the above problem—drop us a line and we will be glad to go over **your** particular scheduling problem.

Pot Plant Schedules

SINGLE PINCH

ABOUT "SHORT PROCEDURE"

In the descriptions (in the general variety list) each of the new 1956 pot mums is classified as "short procedure," "medium procedure," or "tall procedure." A "short procedure" variety is one that naturally tends to be quite short (Wilson's White, Delaware). These varieties generally need 2 or 3 or more weeks of lights for winter flowering to make them **tall** enough. The "tall procedure" kinds are those that are really compact growing enough for pot use, but which tend to be taller than the real short ones such as Wilson's White. Especially on summer-fall flowerings, they must be given no long days (shade same day they are potted)—and pinch must be delayed—to keep them from being **too tall**. The Indianapolis varieties are considered "tall procedure" types.

The tables that follow are based on these "short," "medium," and "tall" procedure schedules. They tend to make the very short ones some taller in winter (more so than our last year schedules)—and to make the tall ones shorter in late summer-early fall. The varieties selected are those generally considered best for the period concerned.

Growers who specialize in pot mums may be interested in more details on these "short-medium-tall" schedules. A postcard request to our Ball Mum Planning Service will bring full schedules for all varieties recommended for pot growing covering all seasons. No charge.

NUMBER OF CUTTINGS PER POT

To insure a well filled out plant, five cuttings for a 6-inch pot is generally recommended (for single pinch). A few varieties that tend to break more freely (Bonnaffon Deluxe) can be grown 4 to a six. Because breaks come more freely during the summer months, a few growers go to 4 cuttings per pot on those flowered from August thru November. However, the competitive market during the fall in many areas requires a well filled cut plant that can be only accomplished by use of five cuttings per pot. Poor breakers like Indianapolis and Humdinger are apt to be thin even then with four cuttings.

Incidentally, many growers in the Northwest grow as many as half of their pot mums in **five** inch pots—and even some 4's. Bill De Young, Pella, Iowa, grows fours in quantity, two cuttings per pot, eight flowers (Bonnaffon). 90c wholesale.

Flower	Varieties	Pot	Pinch	Lighting Period 40-45° Latitude (1)	Shade
April 5 April 12	Granite State, Luna, Wilson's White..... } Delaware	Jan. 5	Jan. 26	Jan. 5-Feb. 1	March 15
March 22 March 29 April 5	Monty } Criterion, Queen of Pinks..... } Bon. DeLuxe	Jan. 5	Jan. 19	Jan. 5-Jan. 18	March 15
March 15 March 22	Lace Varieties } Pacesetter, Portrait, Humdinger, Little } America, Ill. Snowdrift..... }	Jan. 5	Jan. 26	Jan. 5-Jan. 11	No
March 26	Indianapolis Varieties				
April 12 April 19	Granite State, Luna, Wilson's White..... } Delaware	Jan. 12	Feb. 2	Jan. 12-Feb. 8	March 15
March 29 April 5 April 12	Monty } Criterion, Queen of Pinks..... } Bon. DeLuxe	Jan. 12	Jan. 26	Jan. 12-Jan. 25	March 15
March 22 March 29	Lace Varieties } Pacesetter, Portrait, Little America, } Ill. Snowdrift, Humdinger..... }	Jan. 12	Feb. 2	Jan. 12-Jan. 18	March 15
April 2	Indianapolis Varieties				
April 19 April 26	Granite State, Luna, Wilson's White..... } Delaware	Jan. 19	Feb. 9	Jan. 19-Feb. 15	March 15
April 5 April 12 April 19	Monty } Criterion, Queen of Pinks..... } Bon. DeLuxe	Jan. 19	Feb. 2	Jan. 19-Feb. 1	March 15
March 29 April 5	Lace Varieties } Pacesetter, Portrait, Humdinger, Little } America, Ill. Snowdrift..... }	Jan. 19	Feb. 9	Jan. 19-Jan. 25	March 15
April 9	Indianapolis Varieties				
April 26	Granite State, Luna, Wilson's White..... } Delaware	Jan. 26	Feb. 16	Jan. 26-Feb. 22	March 15
April 12 April 19 April 26	Monty } Criterion, Queen of Pinks..... } Bon. DeLuxe	Jan. 26	Feb. 9	Jan. 26-Feb. 8	March 15
April 5 April 12	Lace Varieties } Pacesetter, Portrait, Humdinger, Ill. } Snowdrift	Jan. 26	Feb. 16	Jan. 26-Feb. 1	March 15
April 16	Indianapolis Varieties				

1. See page 57 for lighting periods in other areas.

SINGLE PINCH POT PLANT SCHEDULES

Flower	Varieties	Pot	Pinch	Lighting Period 40-45° Latitude (1)	Shade
May 3	Granite State, Luna, Wilson's White.....	Feb. 2	Feb. 23	Feb. 2-Feb. 29	March 15
April 12	Blazing Gold, Georgia, Gardenia.....	Feb. 2	Feb. 16	Feb. 2-Feb. 15	March 15
April 19	Monty				
April 26	Criterion, Queen of Pinks.....				
May 3	Bon. DeLuxe				
April 12	Lace Varieties	Feb. 2	Feb. 23	Feb. 2-Feb. 8	March 15
April 19	Pacesetter, Portrait, Humdinger, Ill. Snowdrift				
April 23	Indianapolis Varieties				
May 10	Granite State, Luna, Wilson's White.....	Feb. 9	March 1	Feb. 9-March 7	March 15
April 19	Georgia, Gardenia, Blazing Gold.....	Feb. 9	Feb. 23	Feb. 9-Feb. 22	March 15
April 26	Monty				
May 3	Criterion				
May 10	Bon. DeLuxe				
April 12	Sunburst	Feb. 9	March 1	Feb. 9-Feb. 15	March 15
April 19	Lace Varieties				
April 26	Pacesetter, Portrait, Humdinger, Ill. Snowdrift				
April 30	Indianapolis Varieties				
May 17	Granite State, Luna, Wilson's White.....	Feb. 16	March 8	Feb. 16-March 14	March 15
April 26	Georgia, Gardenia, Blazing Gold.....	Feb. 16	March 1	Feb. 16-Feb. 29	March 15
May 3	Monty				
May 10	Criterion				
May 17	Bon. DeLuxe				
April 19	Sunburst	Feb. 16	March 8	Feb. 16-Feb. 22	March 15
April 26	Lace Varieties				
May 3	Pacesetter, Portrait, Humdinger, Ill. Snowdrift				
May 7	Indianapolis Varieties				



A demonstration of delayed pinch on pot mums, variety Illini Snowdrift. "Delayed Pinch" is done to shorten the plant, simply means delaying the date of the pinch. Normally the pinch is made the same day that short days are started (lights off or start shade date). On a delayed pinch schedule, the pinch is made one, two, or even three weeks AFTER short days are started.

Illini Snowdrift (above) tends to be too tall grown as a pot plant. The plant on the left above was given a one week delayed pinch—

and flowered at a desirable height. The center plant was given a three week delayed pinch—and really is too short. The plant on the right was delayed five weeks—definitely too short.

Delaying the final pinch also makes for more flowers on the plant—and a somewhat delayed flowering date. Note that the five week delayed plant above is definitely later—even though it was given short days 10 days earlier than the others.

SINGLE PINCH POT PLANT SCHEDULES

Flower	Varieties	Pot	Pinch	Lighting Period 40-45° Latitude (1)	Shade
May 3 May 10 May 17 May 24	Blazing Gold, Georgia, Gardenia..... Monty Criterion Bonaffon Deluxe	Feb. 23	March 8	Feb. 23-March 7	March 15
April 26 May 3 May 10 May 14	Sunburst Lace Varieties Pacesetter, Portrait, Ill. Snowdrift..... Indianapolis Varieties	Feb. 23	March 15	Feb. 23-Feb. 29	March 15
May 24	Granite State, Luna, Wilson's White.....	March 1	March 15	March-1-March 21	March 22
May 10 May 17 May 24 May 31	Blazing Gold, Georgia, Gardenia..... Monty Criterion Bon. DeLuxe	March 1	March 15	March 1-March 14	March 15
May 3 May 10 May 17	Sunburst Lace Varieties Pacesetter, Portrait, Ill. Snowdrift.....	March 1	March 22	March 1-March 7	March 15
May 31	Granite State, Luna, Wilson's White.....	March 8	March 22	March 8-March 28	March 29
May 17 May 24 May 31 June 7	Georgia, Gardenia, Blazing Gold..... Monty Criterion Bon. DeLuxe	March 8	March 22	March 8-March 21	March 22
May 10 May 17 May 24 May 28	Sunburst Lace Varieties Pacesetter, Portrait, Ill. Snowdrift..... Indianapolis Varieties	March 8	March 29	March 8-March 14	March 15
June 7	Granite State, Luna, Wilson's White.....	March 15	March 29	March 15-April 4	April 5
May 24 May 31 June 7 June 14	Georgia, Gardenia, Blazing Gold..... Monty Criterion Bon. DeLuxe	March 15	March 29	March 15-March 28	March 29
May 17 May 24 May 31	Sunburst Lace Varieties Pacesetter, Portrait, Ill. Snowdrift.....	March 15	April 5	March 15-March 21	March 22
June 14	Granite State, Luna, Wilson's White.....	March 22	April 5	March 22-April-11	April 12
May 31 June 7 June 14 June 21	Georgia, Gardenia, Blazing Gold..... Monty Criterion Bon. DeLuxe	March 22	April 5	March 22-April 4	April 5
May 24 May 31 June 7	Sunburst Lace Varieties Pacesetter, Portrait	March 22	April 12	March 22-March 28	March 29
May 31 June 7 June 14	Sunburst Lace Varieties Pacesetter, Portrait	March 29	April 19	March 29-April 4	April 5
June 21	Granite State, Luna, Wilson's White.....	April 5	April 12	April 5-April 18	April 19
June 7 June 14 June 21 June 28	Blazing Gold, Georgia, Gardenia..... Monty Criterion Bon. DeLuxe	April 5	April 12	April 5-April 11	April 12
June 28	Granite State, Luna, Wilson's White.....	April 12	April 19	April 12-April 25	April 26
June 14 June 21 June 28 July 5	Georgia, Gardenia, Blazing Gold..... Monty Criterion, Portrait Bon. DeLuxe	April 12	April 19	April 12-April 18	April 19
June 7 June 14 June 21	Sunburst Lace Varieties Pacesetter	April 12	April 19	No	April 12

1. See page 57 for lighting periods in other areas.

SINGLE PINCH POT PLANT SCHEDULES

Flower	Varieties	Pot	Pinch	Lighting Period 40-45° Latitude (1)	Shade
July 5	Granite State, Luna, Wilson's White.....	April 19	April 26	April 19-May 2	May 3
June 21	Georgia, Gardenia, Blazing Gold.....	April 19	April 26	April 19-April 25	April 26
June 28	Monty				
July 5	Criterion, Portrait				
July 12	Bon. DeLuxe				
June 14	Sunburst	April 19	April 26	No	April 19
June 21	Lace Varieties				
June 28	Pacesetter				
July 12	Granite State, Luna, Wilson's White.....	April 26	May 3	April 26-May 9	May 10
June 28	Georgia, Gardenia, Blazing Gold.....	April 26	May 3	April 26-May 2	May 3
July 5	Monty				
July 12	Criterion, Portrait				
July 19	Bon. DeLuxe				
June 21	Sunburst	April 26	May 3	No	April 26
June 28	Lace Varieties				
July 5	Pacesetter				
July 19	Granite State, Luna, Wilson's White.....	May 3	May 10	May 3-May 16	May 17
July 5	Blazing Gold, Georgia, Gardenia.....	May 3	May 10	May 3-May 9	May 10
July 12	Monty				
July 19	Criterion, Portrait				
July 26	Bon. DeLuxe				
June 28	Sunburst	May 3	May 10	No	May 3
July 12	Pacesetter				
July 26	Granite State, Luna, Wilson's White.....	May 10	May 17	May 10-May 23	May 24
July 12	Georgia, Gardenia, Blazing Gold.....	May 10	May 17	May 10-May 16	May 17
July 19	Monty				
July 26	Criterion, Portrait				
Aug. 2	Bon. DeLuxe				
July 5	Sunburst	May 10	May 17	No	May 10
July 19	Pacesetter				
Aug. 2	Granite State, Luna, Wilson's White.....	May 17	May 24	May 17-May 30	May 31
July 19	Georgia, Gardenia, Blazing Gold.....	May 17	May 24	May 17-May 23	May 24
July 26	Monty				
Aug. 2	Criterion, Portrait				
Aug. 9	Bon. DeLuxe				
July 12	Sunburst	May 17	May 24	No	May 17
July 26	Pacesetter				
Aug. 9	Granite State, Luna, Wilson's White.....	May 24	May 31	May 24-May 31	June 7
July 26	Georgia, Gardenia, Blazing Gold.....	May 24	May 31	May 24-May 30	May 31
Aug. 2	Monty				
Aug. 9	Criterion, Portrait				
Aug. 16	Bon. DeLuxe				
July 19	Sunburst	May 24	May 31	No	May 24
Aug. 2	Pacesetter				
Aug. 16	Granite State, Luna, Wilson's White.....	May 31	June 7	No	June 14
Aug. 2	Georgia, Gardenia, Blazing Gold.....	May 31	June 7	No	June 7
Aug. 9	Monty				
Aug. 16	Criterion, Portrait				
Aug. 23	Bon. DeLuxe				
July 26	Sunburst	May 31	June 7	No	May 31
Aug. 9	Pacesetter				

SINGLE PINCH POT PLANT SCHEDULES

Flower	Varieties	Pot	Pinch	Lighting Period 40-45° Latitude (1)	Shade
Aug. 23	Granite State, Luna, Wilson's White.....	June 7	June 14	No	June 21
Aug. 9	Blazing Gold, Georgia, Gardenia.....	June 7	June 14	No	June 14
Aug. 16	Monty				
Aug. 23	Criterion, Portrait				
Aug. 30	Bon. DeLuxe				
Aug. 2	Sunburst	June 7	June 14	No	June 7
Aug. 16	Pacesetter				
Aug. 30	Granite State, Luna, Wilson's White.....	June 14	June 21	No	June 28
Aug. 16	Georgia, Gardenia, Blazing Gold.....	June 14	June 21	No	June 21
Aug. 23	Monty				
Aug. 30	Criterion, Portrait				
Sept. 6	Bon. DeLuxe				
Aug. 9	Sunburst	June 14	June 21	No	June 14
Aug. 23	Pacesetter				
Sept. 6	Granite State, Luna, Wilson's White.....	June 21	June 28	No	July 5
Aug. 23	Georgia, Gardenia, Blazing Gold.....	June 21	June 28	No	June 28
Aug. 30	Monty				
Sept. 6	Criterion, Portrait, Humdinger.....				
Sept. 13	Bon. DeLuxe				
Aug. 16	Sunburst	June 21	June 28	No	June 21
Aug. 30	Pacesetter				
Sept. 3	Indianapolis Varieties				
Sept. 13	Granite State, Luna, Wilson's White.....	June 28	July 5	No	July 12
Sept. 20	Delaware				
Aug. 30	Georgia, Gardenia, Blazing Gold.....	June 28	July 5	No	July 5
Sept. 6	Monty				
Sept. 13	Criterion, Portrait, Humdinger.....				
Sept. 20	Bon. DeLuxe				
Aug. 23	Sunburst	June 28	July 5	No	June 28
Sept. 6	Pacesetter				
Sept. 10	Indianapolis Varieties				
Sept. 20	Granite State, Luna, Wilson's White.....	July 5	July 12	July 15-July 18	July 19
Sept. 27	Delaware				
Sept. 6	Blazing Gold, Georgia, Gardenia.....	July 5	July 12	No	July 12
Sept. 13	Monty				
Sept. 20	Criterion, Portrait, Humdinger, Queen of Pinks				
Sept. 27	Bon. DeLuxe				
Aug. 30	Sunburst	July 5	July 12	No	July 5
Sept. 13	Pacesetter				
Sept. 17	Indianapolis Varieties				
Sept. 20	Barbara Fuller	July 12	July 19	July 15-July 25	July 26
Sept. 27	Granite State, Luna, Wilson's White.....				
Oct. 4	Delaware				
Sept. 13	Georgia, Gardenia, Blazing Gold.....	July 12	July 19	July 15-July 18	July 19
Sept. 20	Monty				
Sept. 27	Criterion, Portrait, Humdinger, Queen of Pinks				
Oct. 4	Bon. DeLuxe				
Sept. 6	Sunburst	July 12	July 19	No	July 12
Sept. 20	Pacesetter				
Sept. 24	Indianapolis Varieties				
Sept. 27	Barbara Fuller	July 19	July 26	July 19-Aug. 1	Aug. 2
Oct. 4	Granite State, Luna, Wilson's White.....				
Oct. 11	Delaware				

1. See page 57 for lighting periods in other areas.

SINGLE PINCH POT PLANT SCHEDULES

Flower	Varieties	Pot	Pinch	Lighting Period 40-45° Latitude (1)	Shade
Sept. 20 Sept. 27 Oct. 4	Georgia, Gardenia, Blazing Gold..... Monty	July 19	July 26	July 19-July 25	July 26
Oct. 4	Criterion, Portrait, Humdinger, Queen of Pinks				
Oct. 11	Bon. DeLuxe				
Sept. 13 Sept. 27 Oct. 1	Sunburst	July 19	July 26	No	July 19
Sept. 27	Pacesetter, Little America.....				
Oct. 1	Indianapolis Varieties				
Oct. 4 Oct. 11 Oct. 18	Barbara Fuller	July 26	Aug. 2	July 26-Aug. 8	Aug. 9
Oct. 11	Granite State, Luna, Wilson's White.....				
Oct. 18	Delaware				
Sept. 27 Oct. 4 Oct. 11	Georgia, Gardenia, Blazing Gold..... Monty	July 26	Aug. 2	July 26-Aug. 1	Aug. 2
Oct. 11	Criterion, Portrait, Humdinger, Queen of Pinks				
Oct. 18	Bon. DeLuxe				
Sept. 20 Oct. 4 Oct. 8	Sunburst	July 26	Aug. 2	No	July 26
Oct. 4	Pacesetter, Little America.....				
Oct. 8	Indianapolis Varieties				
Oct. 11 Oct. 18 Oct. 25	Barbara Fuller	Aug. 2	Aug. 9	Aug. 2-Aug. 15	Aug. 16
Oct. 18	Granite State, Luna, Wilson's White.....				
Oct. 25	Delaware				
Oct. 4 Oct. 11 Oct. 18	Blazing Gold, Georgia, Gardenia..... Monty	Aug. 2	Aug. 9	Aug. 2-Aug. 8	Aug. 9
Oct. 11	Criterion, Portrait, Humdinger, Queen of Pinks				
Oct. 18	Bon. DeLuxe				
Sept. 27 Oct. 11 Oct. 15	Sunburst	Aug. 2	Aug. 9	No	Aug. 2
Oct. 11	Pacesetter, Little America.....				
Oct. 15	Indianapolis Varieties				
Oct. 18 Oct. 25 Nov. 1	Barbara Fuller	Aug. 9	Aug. 16	Aug. 9-Aug. 22	Aug. 23
Oct. 25	Granite State, Luna, Wilson's White.....				
Nov. 1	Delaware				
Oct. 11 Oct. 18 Oct. 25	Georgia, Gardenia, Blazing Gold..... Monty	Aug. 9	Aug. 16	Aug. 9-Aug. 15	Aug. 16
Oct. 18	Criterion, Portrait, Humdinger, Queen of Pinks				
Oct. 25	Bon. DeLuxe				
Nov. 1	Bon. DeLuxe	Aug. 9	Aug. 16	No	Aug. 9
Oct. 4	Sunburst				
Oct. 18	Pacesetter, Little America.....				
Oct. 22	Indianapolis Varieties				
Oct. 25 Nov. 1 Nov. 8	Barbara Fuller	Aug. 9	Aug. 23	Aug. 9-Aug. 29	Aug. 30
Nov. 1	Granite State, Luna, Wilson's White.....				
Nov. 8	Delaware				
Nov. 1 Nov. 8 Nov. 15	Barbara Fuller	Aug. 16	Aug. 30	Aug. 16-Sept. 5	Sept. 6
Nov. 8	Granite State, Luna, Wilson's White.....				
Nov. 15	Delaware				
Oct. 18 Oct. 25 Nov. 1	Georgia, Blazing Gold	Aug. 16	Aug. 23	Aug. 16-Aug. 22	Aug. 23
Oct. 25	Monty				
Nov. 1	Criterion, Portrait, Humdinger, Queen of Pinks				
Nov. 8	Bon. DeLuxe	Aug. 16	Aug. 23	No	Aug. 16
Oct. 11	Sunburst				
Oct. 25	Pacesetter, Little America.....				
Oct. 29	Indianapolis Varieties				
Oct. 18 Nov. 1 Nov. 5	Sunburst	Aug. 16	Sept. 6	Aug. 16-Aug. 22	Aug. 23
Nov. 1	Pacesetter, Little America.....				
Nov. 5	Indianapolis Varieties				
Nov. 8 Nov. 15 Nov. 22	Barbara Fuller	Aug. 23	Sept. 6	Aug. 23-Sept. 12	Sept. 13
Nov. 15	Granite State, Luna, Wilson's White.....				
Nov. 22	Delaware				

SINGLE PINCH POT PLANT SCHEDULES

Flower	Varieties	Pot	Pinch	Lighting Period 40-45° Latitude (1)	Shade
Oct. 25 Nov. 1 Nov. 8	Georgia, Blazing Gold Monty Criterion, Portrait, Humdinger, Queen of Pinks	Aug. 23	Aug. 30	Aug. 23-Aug. 29	Aug. 30
Nov. 15	Bon. DeLuxe				
Oct. 25 Nov. 8 Nov. 12	Sunburst Pacesetter, Little America..... Indianapolis Varieties	Aug. 23	Sept. 13	Aug. 23-Aug. 29	Aug. 30
Nov. 15 Nov. 22 Nov. 29	Barbara Fuller Granite State, Luna, Wilson's White..... Delaware				
Nov. 1 Nov. 8 Nov. 15	Georgia, Blazing Gold Monty Criterion, Portrait, Humdinger, Queen of Pinks	Aug. 30	Sept. 6	Aug. 30-Sept. 5	Sept. 6
Nov. 22	Bon. DeLuxe				
Nov. 1 Nov. 15 Nov. 19	Sunburst Pacesetter, Little America..... Indianapolis Varieties	Aug. 30	Sept. 20	Aug. 30-Sept. 5	Sept. 6
Nov. 22 Nov. 29 Dec. 6	Barbara Fuller Granite State, Luna, Wilson's White..... Delaware				
Nov. 8 Nov. 15 Nov. 22	Blazing Gold, Georgia..... Monty Criterion, Portrait, Humdinger, Queen of Pinks	Sept. 6	Sept. 13	Sept. 6-Sept. 12	Sept. 13
Nov. 29	Bon. DeLuxe				
Nov. 8 Nov. 22 Nov. 26	Sunburst Pacesetter, Little America..... Indianapolis Varieties	Sept. 6	Sept. 27	Sept. 6-Sept. 12	Sept. 13
Nov. 29 Dec. 6 Dec. 13	Barbara Fuller Granite State, Luna, Wilson's White..... Delaware				
Nov. 15 Nov. 22 Nov. 29	Georgia Monty Criterion, Portrait, Humdinger, Queen of Pinks	Sept. 13	Sept. 20	Sept. 13-Sept. 19	Sept. 20
Dec. 6	Bon. DeLuxe				
Nov. 15 Nov. 29 Dec. 3	Sunburst Pacesetter, Little America..... Indianapolis Varieties	Sept. 13	Oct. 4	Sept. 13-Sept. 19	Sept. 20
Dec. 6 Dec. 13	Barbara Fuller Granite State, Luna, Wilson's White.....				
Nov. 22 Nov. 29 Dec. 6	Georgia Monty Criterion, Portrait, Humdinger, Queen of Pinks	Sept. 20	Sept. 27	Sept. 20-Sept. 26	No
Dec. 13	Bon. DeLuxe				
Nov. 22 Dec. 6 Dec. 10	Sunburst Pacesetter, Little America..... Indianapolis Varieties	Sept. 20	Oct. 11	Sept. 20-Sept. 26	No
Dec. 13 Dec. 20 Dec. 27	Barbara Fuller Granite State, Luna, Wilson's White..... Delaware				
Dec. 6 Dec. 13 Dec. 20	Monty Criterion, Portrait, Humdinger, Queen of Pinks Bon. DeLuxe	Sept. 27	Oct. 4	Sept. 27-Oct. 3	No

1. See page 57 for lighting periods in other areas.

SINGLE PINCH POT PLANT SCHEDULES

Flower	Varieties	Pot	Pinch	Lighting Period 40-45° Latitude (1)	Shade
Nov. 29 Dec. 6 Dec. 13 Dec. 17	Sunburst Lace Varieties Pacesetter, Little America..... Indianapolis Varieties	Sept. 27	Oct. 18	Sept. 27-Oct. 3	No
Dec. 20 Dec. 27 Jan. 3	Barbara Fuller Granite State, Luna, Wilson's White..... Delaware				
Dec. 6 Dec. 13 Dec. 20	Blazing Gold Monty Criterion, Portrait, Humdinger, Queen of Pinks				
Dec. 27	Bon. DeLuxe				
Dec. 6 Dec. 13 Dec. 20 Dec. 24	Sunburst Lace Varieties Pacesetter, Little America..... Indianapolis Varieties	Oct. 4	Oct. 25	Oct. 4-Oct. 10	No
Dec. 27 Jan. 3, '57 Jan. 10	Barbara Fuller Granite State, Luna, Wilson's White..... Delaware				
Dec. 13 Dec. 20 Dec. 27	Blazing Gold Monty Criterion, Portrait, Humdinger, Queen of Pinks				
Jan. 3	Bon. DeLuxe				
Jan., 10 '57 Jan. 17	Granite State, Luna, Wilson's White..... Delaware	Oct. 11	Nov. 1	Oct. 11-Nov. 7	No
Jan. 3 Jan. 10	Criterion, Portrait, Humdinger, Queen of Pinks Bon. DeLuxe				
Dec. 13 Dec. 20 Dec. 27 Dec. 31	Sunburst Lace Varieties Pacesetter, Little America..... Indianapolis Varieties				
Jan. 17 Jan. 24	Granite State, Luna, Wilson's White..... Delaware				
Jan. 10 Jan. 17	Criterion, Portrait, Humdinger, Queen of Pinks Bon. DeLuxe	Oct. 18	Nov. 8	Oct. 18-Nov. 14	No
Dec. 20 Dec. 27 Jan. 3 Jan. 7	Sunburst Lace Varieties Pacesetter, Little America..... Indianapolis Varieties				
Jan. 24 Jan. 31	Granite State, Luna, Wilson's White..... Delaware				
Jan. 17 Jan. 24	Criterion, Portrait, Humdinger, Queen of Pinks Bon. DeLuxe				
Jan. 3 Jan. 10 Jan. 14	Lace Varieties Pacesetter, Little America..... Indianapolis Varieties	Oct. 25	Nov. 15	Oct. 25-Oct. 31	No
Jan. 31 Feb. 7	Granite State, Luna, Wilson's White..... Delaware				
Jan. 10 Jan. 24 Jan. 31	Blazing Gold Criterion, Portrait, Humdinger, Queen of Pinks Bon. DeLuxe				

SINGLE PINCH POT PLANT SCHEDULES

Flower	Varieties	Pot	Pinch	Lighting Period 40-45° Latitude (1)	Shade
Jan. 10 Jan. 17 Jan. 21	Lace Varieties Pacesetter, Little America..... Indianapolis Varieties	Nov. 1	Nov. 22	Nov. 1-Nov. 7	No
Feb. 7 Feb. 14	Granite State, Luna, Wilson's White..... Delaware	Nov. 8	Nov. 29	Nov. 8-Dec. 5	No
Jan. 31 Feb. 7	Criterion, Portrait, Humdinger, Queen of Pinks Bon. DeLuxe	Nov. 8	Nov. 22	Nov. 8-Nov. 21	No
Jan. 17 Jan. 24 Jan. 28	Lace Varieties Pacesetter, Little America Indianapolis Varieties	Nov. 8	Nov. 29	Nov. 8-Nov. 14	No
Feb. 14 Feb. 21	Granite State, Luna, Wilson's White..... Delaware	Nov. 15	Dec. 6	Nov. 15-Dec. 12	No
Feb. 7 Feb. 14	Criterion, Portrait, Humdinger, Queen of Pinks Bon. DeLuxe	Nov. 15	Nov. 29	Nov. 15-Nov. 28	No
Jan. 24 Jan. 31 Feb. 4	Lace Varieties Pacesetter, Little America Indianapolis Varieties	Nov. 15	Dec. 6	Nov. 15-Nov. 21	No
Feb. 21 Feb. 28	Granite State, Luna, Wilson's White..... Delaware	Nov. 22	Dec. 13	Nov. 22-Dec. 19	No
Feb. 14 Feb. 21	Criterion, Portrait, Humdinger, Queen of Pinks Bon. DeLuxe	Nov. 22	Dec. 6	Nov. 22-Dec. 5	No
Jan. 31 Feb. 7 Feb. 11	Lace Varieties Pacesetter, Little America Indianapolis Varieties	Nov. 22	Dec. 13	Nov. 22-Nov. 28	No
Feb. 28 March 7	Granite State, Luna, Wilson's White..... Delaware	Nov. 29	Dec. 20	Nov. 29-Dec. 26	No
Feb. 21 Feb. 28	Criterion, Portrait, Humdinger, Queen of Pinks Bon. DeLuxe	Nov. 29	Dec. 13	Nov. 29-Dec. 12	No
Feb. 7 Feb. 14 Feb. 18	Lace Varieties Pacesetter, Little America Indianapolis Varieties	Nov. 29	Dec. 20	Nov. 29-Dec. 5	No
March 7 March 14	Granite State, Luna, Wilson's White..... Delaware	Dec. 6	Dec. 27	Dec. 6-Jan. 2	No
Feb. 14 Feb. 28 March 7	Blazing Gold Criterion, Portrait, Humdinger, Queen of Pinks Bon. DeLuxe	Dec. 6	Dec. 20	Dec. 6-Dec. 19	No
Feb. 14 Feb. 21 Feb. 25	Lace Varieties Pacesetter, Little America Indianapolis Varieties	Dec. 6	Dec. 27	Dec. 6-Dec. 12	No
March 14 March 21	Granite State, Luna, Wilson's White..... Delaware	Dec. 13	Jan. 3	Dec. 13-Jan. 9	No
Feb. 28 March 7 March 14	Monty Criterion, Humdinger, Queen of Pinks..... Bon. DeLuxe	Dec. 13	Dec. 27	Dec. 13-Dec. 26	No
Feb. 21 Feb. 28 March 4	Lace Varieties Pacesetter, Little America Indianapolis Varieties	Dec. 13	Jan. 3	Dec. 13-Dec. 19	No
March 21 March 28	Granite State, Luna, Wilson's White..... Delaware	Dec. 20	Jan. 10	Dec. 20-Jan. 16	No

1. See page 57 for lighting periods in other areas.

SINGLE PINCH POT PLANT SCHEDULES

Flower	Varieties	Pot	Pinch	Lighting Period 40-45° Latitude (1)	Shade
Feb. 28 March 7 March 14 March 21	Gardenia Monty Criterion, Humdinger, Queen of Pinks..... Bon. DeLuxe	Dec. 20	Jan. 3	Dec. 20-Jan. 2	No
Feb. 28 March 7 March 11	Lace Varieties Pacesetter, Portrait, Little America, III. Snowdrift				
	Indianapolis Varieties				
March 28 April 4	Granite State, Luna, Wilson's White..... Delaware	Dec. 27	Jan. 17	Dec. 27-Jan. 23	March 15
March 7 March 14 March 21 March 28	Gardenia Monty Criterion, Humdinger, Queen of Pinks..... Bon. DeLuxe	Dec. 27	Jan. 10	Dec. 27-Jan. 9	No
Feb. 28 March 7 March 14 March 18	Sunburst Lace Varieties Pacesetter, Portrait, Little America, III. Snowdrift				
	Indianapolis Varieties				

1. See page 57 for lighting periods in other areas.

TWO-PINCH POT PLANTS FOR

Normal Season Flowering

NO LIGHTS—NO SHADE

Variety	Color	Pot cuttings (4 per 6" pot)	First Pinch	Final Pinch	Flowering Date
Fairyland	Pink	July 28	Aug. 4	Aug. 24	Oct. 15
Blazing Gold	Yellow	July 28	Aug. 4	Aug. 24	Oct. 23
Granite State	White	July 28	Aug. 4	Aug. 24	Oct. 25
Glitters (and Bronze)	Bronze	Aug. 4	Aug. 11	Sept. 6	Oct. 28
Queen's Lace	White	Aug. 4	Aug. 11	Sept. 6	Nov. 1
Gold Lace	Yellow	Aug. 4	Aug. 11	Sept. 6	Nov. 1
Royal Bronze	Bronze	Aug. 4	Aug. 11	Sept. 6	Nov. 1
Wilson's White	White	July 28	Aug. 4	Aug. 26	Nov. 1
Indianapolis White, Dark Yellow and Pink	—	Aug. 4	Aug. 11	Sept. 6	Nov. 5
Delaware	Bronze	Aug. 4	Aug. 11	Sept. 1	Nov. 8
Criterion	Pink	Aug. 4	Aug. 11	Sept. 1	Nov. 8
Humdinger	Dark Orchid	Aug. 4	Aug. 11	Sept. 1	Nov. 10
Copperhead	Bronze	Aug. 11	Aug. 18	Sept. 10	Nov. 10
Queen of Pinks	Pink	Aug. 4	Aug. 11	Sept. 1	Nov. 10
Cadet	Red	Aug. 4	Aug. 11	Sept. 6	Nov. 14
Bonnaillon De Luxe	Yellow	Aug. 4	Aug. 11	Sept. 5	Nov. 20
Helen Frick	Pink	Aug. 11	Aug. 18	Sept. 15	Nov. 20
White Frick	White	Aug. 11	Aug. 18	Sept. 15	Nov. 20
Red Rolinda	Red	Aug. 4	Aug. 11	Sept. 8	Nov. 23
White Lady	White	Aug. 11	Aug. 18	Sept. 15	Nov. 25
Beautiful Lady	Pink	Aug. 11	Aug. 18	Sept. 15	Nov. 25
Sungold	Yellow	Aug. 4	Aug. 11	Sept. 8	Nov. 25

Note: If extra heavy plants are desired, pot cuttings two weeks earlier than the above dates. Make first pinch one week earlier than indicated, final pinch as shown above.

SINGLE PINCH

The trend is definitely toward single pinch growing on normal pot Mums—a faster crop, shorter plants, easier.

To grow the above varieties single pinch for normal date, pot cuttings 7 to 10 days in advance of final pinch date given above, and pinch on final pinch date shown.

Exceptions: The following varieties should be potted **14 days** before final pinch date: Fairyland, Glitters, Lace varieties, Royal Bronze, Indianapolis varieties, Lady varieties, Copperhead, and Frick. These varieties tend to grow tall. The pinch date has been delayed, hence the potting date is farther in advance of the pinch date. Example, Indianapolis: pot August 23, pinch September 6, flower November 5.

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Admiral	45	Burgundy Kramer	31	Dk. Br. Minstrel	36	Garza	21	III. Roseglow	6, 30
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Alex. Cummings	42			Dk. Linda Lou	29	Gladness	41	III. Sunspot	25
Allegro	43			Dk. L. I. Beauty	30	Gladiator	45	III. Tangier	34
Almega	30			Dk. Norma	30	Gladys Pearson	15	III. Wampum	25
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Alvoda	6, 31			Dk. Peter John	14	Gloria	38	III. Warrior	34
Ambassador	9			Dk. Pink Kramer	31	Glow Worm	43	III. Yel. Snowbound	24
Amber Bright	14			Dk. Pk. Minstrel	31	Goblin	44	Imamura Yellow	22
Amberhue	7, 34			Dk. Pk. Minuet	30	Gold Ball	5, 24	Imp. Br. Daisy	33
Amberina	35			Dk. Pk. Pandora	6, 29	Gold Braid	34	Imp. Br. Supreme	35
Amelia	41			Dk. Riviera	31	Gold Coast	22	Imp. Dk. Supreme	31
Amr. Beauty Kramer	31			Dk. Valencia	30	Gold Lace	11	Imp. Early Wonder	42
Anaconda	15			Dk. Yel. Chattanooga	12	Gold Lode	11, 41	Imp. Ind. Yellow	12
Anthem	6, 30			Dauntless	13	Gold Medal	25	Imp. Pk. Minstrel	31
Antique	14			Dazzler	35	Gold Seal	26	Imp. Red Daisy	33
Apache	43			Dean Kay	41	Golden Acclaim	5, 26	Imp. White Supreme	20
Apr. Queen	14			Debonair	35	Golden Anniversary	26	Imp. Yel. Supreme	26
Apr. Valencia	35			Debutante	31	Golden Carpet	39	Indiana Market	10
Arbutus	30			Dec. Glory	11	Golden Cheer	41	Indiana Head	35
Arcadia	17			Dec. Gold	26	Golden Chord	24	Ind. Apricot	2, 15
Argyle	31			Dec. White	11	Golden Cushion	39	Ind. Bronze	14
Aristocrat	14, 42			Defiance	31, 39	Golden Glory	11	Ind. Golden Bronze	15
Arlora	22, 41			Delaware	2, 15	Golden Gopher	45	Ind. Pink	13
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Mogul	44	Pk. Cloud	30	Sal. Masterpiece	30	Talmeda	21	Yel. Cushion	22, 39
Mona	45	Pk. Dot	18	Sal. Pandora	6, 29	Tangerine	39	Yel. Daisy	23
Monarch	20	Pk. Fern Edwards	13	Sal. Precose	41	Tapestry	41	Yel. Dot	22
Monty	3, 17	Pk. Kramer	30	Sal. Valencia	31	Tempo	28	Yel. Doty	23
Monument	10	Pk. L.I. Beauty	31	Samovar	33	Thanks, Pink	14	Yel. Enchantress	26
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Moondrift	22	Pk. Pockett	13	Sarasota	22, 41	Thelma	34	Yel. Firebird	24
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Mrs. DuPont	32, 46	Pixie	23	Sculpture	19	Toronto	44	Yel. Igloo	4, 24
Mrs. Eisenhower	15	Plainsman	44	Seaford	19	Transquility	40	Yel. Irene	22, 41
Mrs. Kidder	11	Poinsettia	36	Seagull	14	Treasure	40	Yel. Ivanhoe	12
Mrs. Rotan	40	Polar Ice	16, 38	Seneca	33	Trenton	21	Yel. Kramer	26
Mrs. Roy	15	Polaris	40	Sept. Bronze	44	Troubadour	42	Yel. Lace	24
Mrs. Stahelin	15	Polka	33	Sept. Cheer	45	Tsukushi Pink	27	Yel. L.I. Beauty	24
Mrs. Walker	13	Pomponette	39	Sept. Gold	39	Tuxedo	29	Yel. Marketeer	12
Muriel Rice	39	Portrait	29	Sept. Sunshine	39	Twinkle	42	Yel. Mefo	12
Muto's Crimson	15	Powder Puff	38	Sequin	26	V		Yel. Moeller	13
Muto's White	21	Prelude	27	Serrated Riviera	31	Valencia	30	Yel. Monument	12
Myrtle Walgreen	42	Princess	30	Shalimar	34	Valiant	2, 11, 41	Yel. Nevada	25
N		Princeton	24	Shalimar (H)	38	Venona	3, 17	Yel. Paramount	25
Nagana	19	Priscilla	19	Shamrock	26	Vesper	19	Yel. Peter John	12
Navaho	33	Pristine	16	Shasta	19	Vesta	17	Yel. Pockett	12
Nevada	19	Purdue	12	Shell Pink Kramer	31	Vibrant	26	Yel. Priscilla	25
New Marg. Mills	43	Purple Star	41	Shooting Star	17	Violet	41	Yel. Queen	12
Nightingale	9	Q		Silver Ball	16, 39	Vivacious Lady	30	Yel. Rayonnante	12
Nobility	29	Queen's Lace	9	Silver Cloud	17	Vogue	27	Yel. Revelation	26
Nocturne	45	Queen of Pinks	13	Silvercrest	20	W		Yel. Riviera	26
Nomago	14	R		Silverplate	16, 39	Waikiki	14	Yel. Rolinda	25
Norona	16, 32	Radiance	7, 32	Silver Queen	9	W. H. Buckingham	28	Yel. Satellites	26
North Star	38	Rainbow	28	Silver Sheen	9	W. P. Snyder	32, 45	Yel. Sculpture	24
Northern Queen	5, 27, 42	Rajah	32, 46	Silversmith	21	Wedding Bells	21	Yel. Sea Gull	23
Nugano	30	Rayonnante	13	Silvertone	16	Wh. Anemone	18	Yel. Shasta	24
Nuggets	23	Real Gold	39	Siren	26	Wh. Bounty	38	Yel. Snow	26
Nye's Favorite	41	Red Cloud	44	Sm. Cream White	11	Wh. Chief	9	Yel. Snowcrest	26
O		Red Daisy	33	Sm. Superlative	11	Wh. Cloud	39	Yel. Spangles	26
Oakdale	15	Red Dot	22	Smith's White	11	Wh. Cushion	16, 38	Yel. Spoon	22, 40
		Red Ethelda	7, 32	Snow	21	Wh. Enchantress	20	Yel. Supreme (H)	39

Florist Supplies

LINDIG SOIL SHREDDERS

	Model B Without Power	With 3/4 H.P. Electric Motor	With 1 H.P. Electric Motor
Model 1B-4	\$130.00	\$195.00
Model 1B-6	135.00	200.50
Model 2B-6	160.00	225.50	\$247.50
Model 2B-8	175.00	262.50

Model JR-B

Model JR-B without power	\$ 95.00
Model JR-B with 1/3 h.p. motor.....	136.00
Model JR-B with 1/2 h.p. motor.....	152.00

Motors complete with switch and six feet of cord.

With gas engines	151.50
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All prices F.O.B., St. Paul, Minn.

HOSEBOYE

HOSEBOYE—complete with 150'-3/4" inside diameter plastic hose, sled and 4 special Veejet Nozzles for Universal Application Assembly B; **\$395.00.** F.O.B. Cincinnati, Ohio.

STEAM-FLO SOIL STERILIZER

Completely equipped including automatic water feed and low water cut off. Not including tires (uses 16 in. rim tires). Price: **\$685.00.** 25 ft. Steam Hose 1 1/4 in. with 2 female connectors. Price **\$35.00.**

Aluminum tubing 1.9 in. outside diameter, flanged and drilled in 19 ft. lengths. Price: **\$0.35** per ft.

Weston Thermometer, for soil heat testing, 2 in. head—8 in. stem. Price: **\$7.50** each. F.O.B. Cincinnati, Ohio.

MIRACLEAN STEM STRIPPER

Cleans stems in seconds. **\$287.70** F.O.B. factory.

Stand for Miraclean Stem Stripper, **\$28.50** F.O.B. factory.

WIRE MESH

(For supporting cut flower crops)

12 1/2 Gauge Galvanized

Spacing Stay Line	Width	Roll Length	Approx. Weight	Price
8 x 6 in.....	42 in.	150 ft.	52 lbs.	\$12.50
8 x 7 in.....	35 in.	200 ft.	55 lbs.	13.25
	42 in.	200 ft.	64 lbs.	15.40
8 x 8 in.....	24 in.	200 ft.	38 lbs.	9.15
	32 in.	200 ft.	50 lbs.	12.00
	40 in.	200 ft.	60 lbs.	15.00
	48 in.	200 ft.	70 lbs.	16.85
8 x 8 1/2 in.....	34 in.	200 ft.	55 lbs.	13.25

F.O.B. California

CARNATION PACK

(Pat. #2,247,191)

1,000.....	\$30.25	per 1000
5,000.....	24.75	per 1000
10,000.....	23.10	per 1000
15,000-25,000	20.35	per 1000

Add **\$5.50** per 1000 if divider is needed.

Prices for large quantities on request.

Printing in one color on face of holder **\$2.75** per 1000 extra on all amounts up to 10,000. Printing free on 10,000 or more.

Please state clearly name, address, etc. to be used.

F.O.B. Castorland, New York.

KAPCO

Now 99 1/2% Water Soluble

	25 to 299 lbs. Per lb.	300 to 999 lbs. Per lb.	1000 to 1999 lbs. Per lb.	2000 lbs. up Per lb.
15-30-15 (Bench or pots)	\$0.26	\$0.22	\$0.21	\$0.20
20-20-20 (Bench crops)	.26	.22	.21	.20
30-10-10 (Azaleas)	.30	.26	.25	.24
16-0-26 (Bench crops)	.20	.16	.15	.14
25-0-25 (Bench crops)	.22	.18	.17	.16
12.5-25-25	.24	.20	.19	.18

F.O.B. McKeesport, Pa.

CLOTH and PLASTICS

BLACK CLOTH (For Day Length Control on Mums, etc.) Price per Sq. Yd. Sewed Unsewed

American Black Sheen.....	\$0.65	\$0.59
Knights Black Sheen. Heavier and more opaque; best for off-season.	.71 1/2	.65 1/2

On orders for less than minimum of 100 Sq. Yds. a charge of \$2.00 is added.
Sold in 3 ft. widths or multiples of 3 ft. only.
F.O.B. the Mills.

SHADE CLOTH (For partial light reduction on cloth house crops, to shade summer Mums from direct sun, etc.)

Saran Cloth	Price per Sq. Yard
Natural 12 x 12, standard width 72 in.	Sewed Unsewed
only47 .43

FUMICOVER (Plastic sheeting for sterilizing covers, to cover plastic greenhouses, to provide temperature partitions in greenhouses, to cover cold frame sash, etc.)

Black or clear 3 gauge Vinyl
(Best for sterilizing covers)

Width	100 ft. Length	150 ft. Length
6 ft.	\$18.00	\$24.00
6 1/2 ft.	20.80	31.20
8 ft.	25.60	38.40
10 ft.	32.00	48.00
10 1/2 ft.	33.60	50.40
12 ft.	38.40	57.60
13 ft.	41.60	62.40
13 1/2 ft.	43.20	64.80
16 ft.	51.20	76.80
18 ft.	57.60	86.40

Chlorophyll Green 8 Gauge Vinyl (A heavier grade)

Width	100 ft. Length	150 ft. Length
6 ft.	\$34.80	\$52.20
6 1/2 ft.	38.35	57.55
8 ft.	47.20	70.80
10 ft.	59.45	89.20
10 1/2 ft.	61.95	92.95
12 ft.	69.60	104.40
13 ft.	76.70	115.05
13 1/2 ft.	79.60	119.40
16 ft.	94.40	141.60
18 ft.	106.65	160.00

Clear Polyethylene 4 Gauge

(Similar to Vinyl—general purpose for plastic greenhouse construction.)

Width	100 ft. Length	150 ft. Length
6 1/2 ft.	\$16.90	\$25.35
10 ft.	26.00	39.00
13 ft.	33.80	50.70

POLYETHYLENE PLASTIC GREENHOUSES

Plastic to cover a house 25 x 100 ft., .0025 gauge

2 rolls 6 1/2 x 100 ft., **\$17.35** per roll
2 rolls 14 1/2 x 125 ft., **\$34.75** per roll

Plastic to cover a house 25 x 100 ft., .005 or 5 gauge

2 rolls 6 1/2 x 100 ft., **\$26.30** per roll
2 rolls 14 1/2 x 125 ft., **\$59.80** per roll

Side walls 6 1/2 ft., roof 14 1/2 ft.; end, cut 25 ft. from roof roll.

F.O.B. Shipping Point.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE



BALL MUM PLANNING SERVICE AT WORK NATIONWIDE!

This broad experience in Mum planning better qualifies our "MPS" Staff to help **you** grow top-notch Mums like these. For details, see page 1

- 1 Bear State Nursery, East Palo Alto, Calif. From the left, John Kyne, G. J. B., Inc.; Kio and Ken Yamane; Mr. Yamane Sr.; and Elmer Adachi, neighboring cloth house grower.
- 2 Year round pot Mums in Portland—Otto Panzer (left), A. Panzer. No fully open plants for picture here—business good!
- 3 Weiland Bros. (Prairie View, Ill.) year round standards. From the left, George Weiland, Francis (Buzz) Weiland; Charles Crownover, our Mum Planning Service Manager; Robert Weiland.
- 4 Year round Mums in the Midwest! These fine pomps grown by Premier Rose Gardens, Des Plaines, Ill. From the left, Clarence Meyer, manager of plants B and C; Charles McCannon, Superintendent; Blaine Stuhlsatz, G. J. B., Inc.
- 5 Mums down South! Gene Buffa, grower-retailer of Memphis, Tenn., another year round grower.
- 6 Hub White, White Bros. Rose Corp., Medina, New York, prominent eastern year round Mum grower.
- 7 Florida Mums—Jack Shanklin of Pinellas Gladiolus Inc., Ft. Myers, shown with his '55 crop.



Greg Ball
INC.

WEST CHICAGO, ILLINOIS

phone West Chicago 299